a W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

APRIL, 1956

TI for April Salutes AMERICA'S KNITTING MILLS

Special section beginning on page 171 contains 10 exclusive feature articles prepared especially for knitting mill management and operating executives. Many ideas for improving quality, increasing production, saving labor, and cutting costs are presented.

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AMERICAN & EFIRD
MILLS, INCORPORATED
MOUNT HOLLY, NORTH CAROLINA

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FOR THE KNITTING AND WEAVING TRADE

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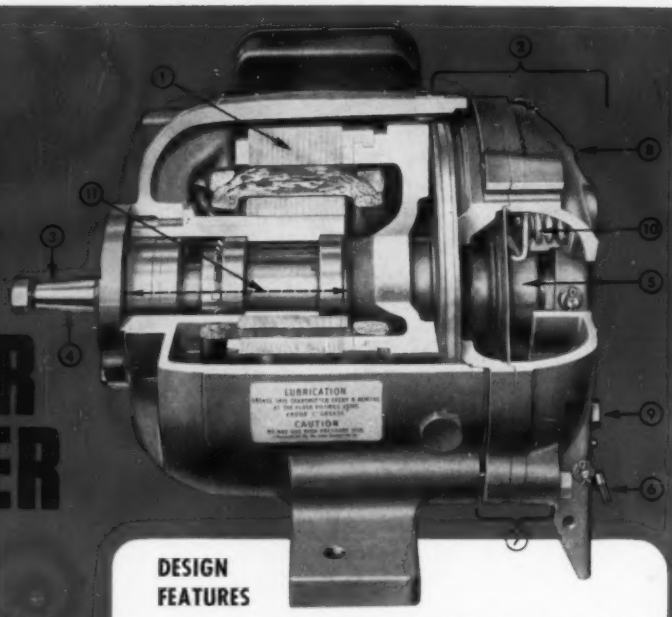
For Draper Looms

Exclusive new design features mean . . . *consistent* quality production . . . *peak* operating efficiency . . . minimum maintenance, labor and costs!

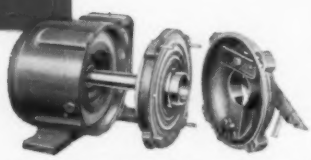


DESIGN FEATURES

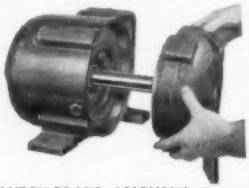
*1. High inertia inverted motor provides "stored energy" for smooth, fast starts and positive picking (maximum inertia with minimum size) . . . prevents regeneration.

STREAMLINED FRAME
Easy to clean. Roomy terminal box.

KINETIC BRAKING ACTION
(See Feature 6)



CLUTCH-ACTUATING BEARING—A strikingly new and improved method of mounting. (See Feature 5)



CLUTCH-BRAKE ASSEMBLY—Improved, simplified. Readily removable as a unit. (See Feature 2)

The original and only loom power transmitter . . . plus many new and outstanding design and construction features never before incorporated in a loom drive!

Over 40,000 Diehl Power Transmitters have been in continuous operation on DRAPER LOOMS—*most of them more than six years!* The new "BA" Power Transmitter is even *more* compact, more streamlined, *more* efficient and *more* easily installed and serviced than its famous predecessor.

It's an inverted-type high inertia motor combined with a fast, positive clutch-brake mechanism. Note the exclusive new design features—the clutch-actuating bearing mounting . . . the kinetic braking action . . . the unitized clutch-brake assembly. These important advancements mean increased production . . . improved cloth quality . . . lowered operating costs . . . fewer shutdowns. *Write, wire or phone today for full information.*

Diehl

plus these outstanding New Features

*2. **CLUTCH-BRAKE ASSEMBLY**—Improved and simplified for positive action and ease of adjustment. Removes readily as unit for maintenance, without disconnecting motor from loom frame.

3. **PINION**—Free accessibility for installation and maintenance.

4. **SHAFT**—Large diameter, alloy steel, heat treated—assures long life, eliminates need for outboard bearing.

*5. **CLUTCH-ACTUATING BEARING**—New diaphragm mounting for frictionless clutch action, positive radial rigidity of bearing . . . eliminates fretting corrosion . . . means full self-alignment of bearing for maximum life.

*6. **KINETIC BRAKING ACTION**—For rapid, accurate stops. Particularly desirable for center fork detection looms.

7. **CLUTCH AND BRAKE ADJUSTMENT**—Simple and convenient. Provides visible check on brake alignment.

*8. **CLUTCH-SETTING INDICATOR**—Built integral with unit for instantaneous external checking of clutch setting.

9. **SAFETY LATCH**—Built integral with unit. Prevents accidental engagement of clutch.

10. **CLUTCH-LOADING ASSEMBLY**—Internally located, hence tamper-proof.

11. **SHAFT-END BEARINGS**—Arrangement simplified and improved. Two ball bearings and an extra large roller bearing assure maximum life.

** Exclusive feature—patent protected.*

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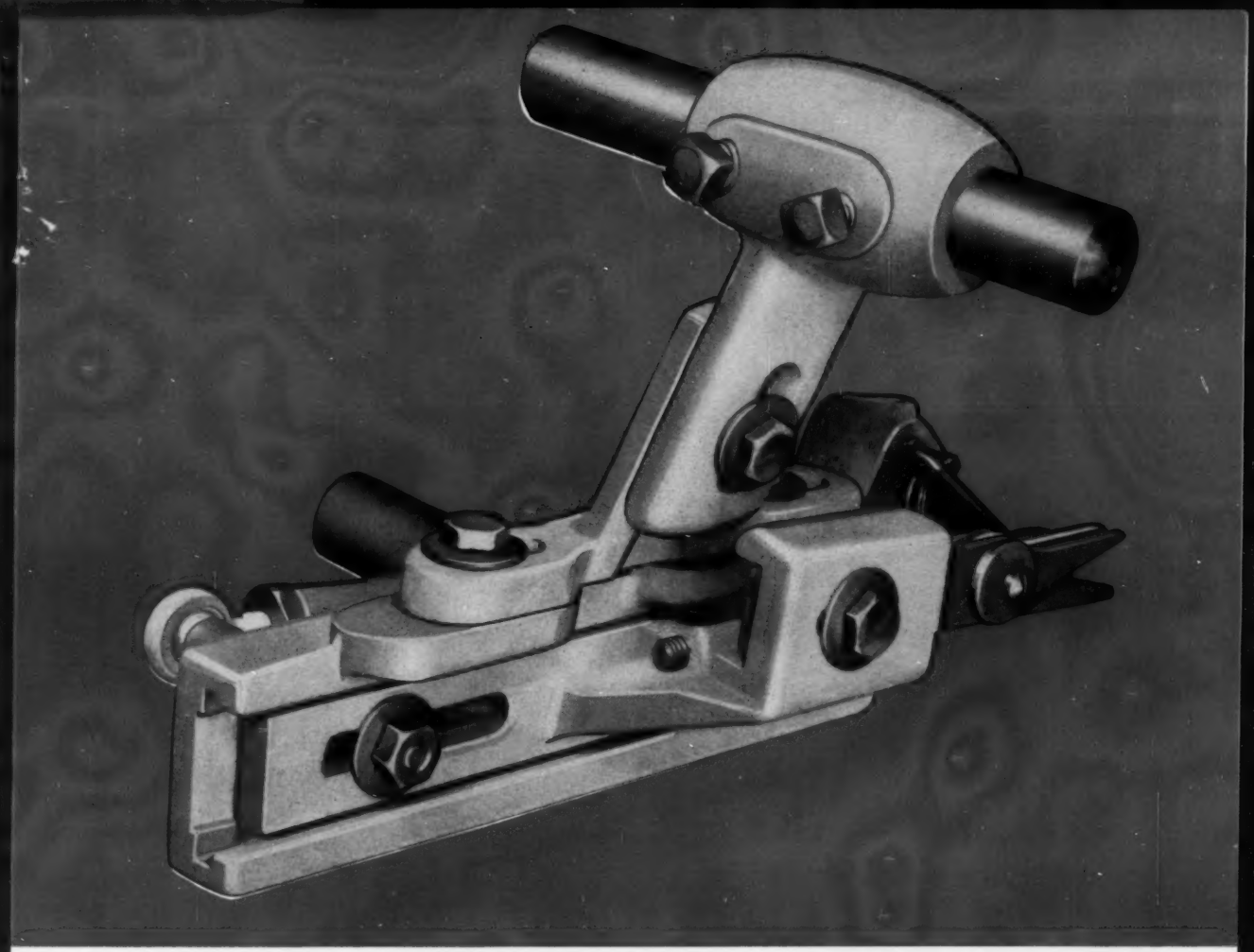

23,817 NOW IN USE
IN MILLS THROUGHOUT THE WORLD

Improved Filing Knife Assembly cuts and holds better on yarns ranging from 15 denier monofilament nylon to 4's cotton flannel napping.

. . . a sales record which proves the acceptance of the new #25 Draper Thread Cutter.*

Reasons for this widespread acceptance are:

1. Maintenance costs are reduced with 20 fewer parts used in assembly.
2. It is easily applied without changing existing parts on the loom.
3. Settings are easier to make — easier to maintain.
4. Drag-ins are greatly reduced.

23,817 mill applications also proves the #25 Draper thread cutter, with its full range of adjustments, increases production and lowers cost.

*Patents Pending

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SPARTANBURG, S. C.

One grease ...many jobs

NOW, for all the grease-lubricated bearings throughout your mill, *one* lubricant — *Texaco Multifak*—will provide effective lubrication, smooth operation, low maintenance costs. This outstanding multi-purpose grease saves time, reduces lubricant inventory, simplifies your lubrication procedure.

Premium-quality *Texaco Multifak* has excellent pumpability even at low temperatures. It resists oxidation, is highly stable and is an effective rust-preventive. You can count on *Texaco Multifak* to lubricate effectively over a wide temperature range — up to 250° F. under sustained operating conditions.

For top roll and loom lubrication, use *Texaco Stazon* — the lubricant that does not splatter, creep or drip. For fiber conditioning, use *Texaco Texspray Compound* — assure smoother, stronger, more uniform yarn.

Let a Texaco Lubrication Engineer develop a simplified lubrication plan for your mill. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York 17, N. Y.

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FOR THE TEXTILE INDUSTRY

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NBP BPA

Textile Industries

Formerly "COTTON"

Vol. 120, No. 4
April, 1956

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Two plants to serve you. Prompt delivery by our own fleet throughout the South and Southwest.

Shorts and Remnants

By J. C. C.

"When that Aprille with his shoures sote
The droghte of March hath perced to the rote"
CHAUCER

You see ole S&R was meant to be an old English poet and all he got to be was old.

Anyway, maybe this is better for April:

"Listen, my children, and you shall hear
Of the midnight ride of Paul Revere
On the eighteenth of April, in Seventy-five,
Hardly a man is now alive
Who remembers that famous day and year."
LONGFELLOW

And that's how Longfellow writes about April. So it's quite a month. Rome was founded in April and Lincoln shot; and Paul Revere rode and a few folks up in Lexington and Concord fired the shot "heard 'round the world."

► So April broke the ties of the old world with the new, starting a Revolution that is still going on—a fight for individual rights and freedom, for a way of life unequaled anywhere in this world 181 years later. And that's all the flag waving until July.

► For April we have a Knitting Section second to none and a salute to an important part of the textile industry—to 2915 knitting mills in the U.S.A. and thousands of others throughout the world.

► There's no Knitting Show this year, so you will have to look to our "New Equipment Parade" and ad pages for anything new in machinery, yarns, needles, and supplies. If you are a knitter and want company, there are the meetings of the Underwear Institute, the Knitted Outerwear folks, and the revamped National Association of Hosiery Manufacturers. So take your choice. We'll see you there—with our stretch socks from last year. S&R thinks they're making them too good. Now, Mrs. S&R disagrees and she's still looking for prewar nylons (not 90 gauge).

► Speaking of the gals, one of

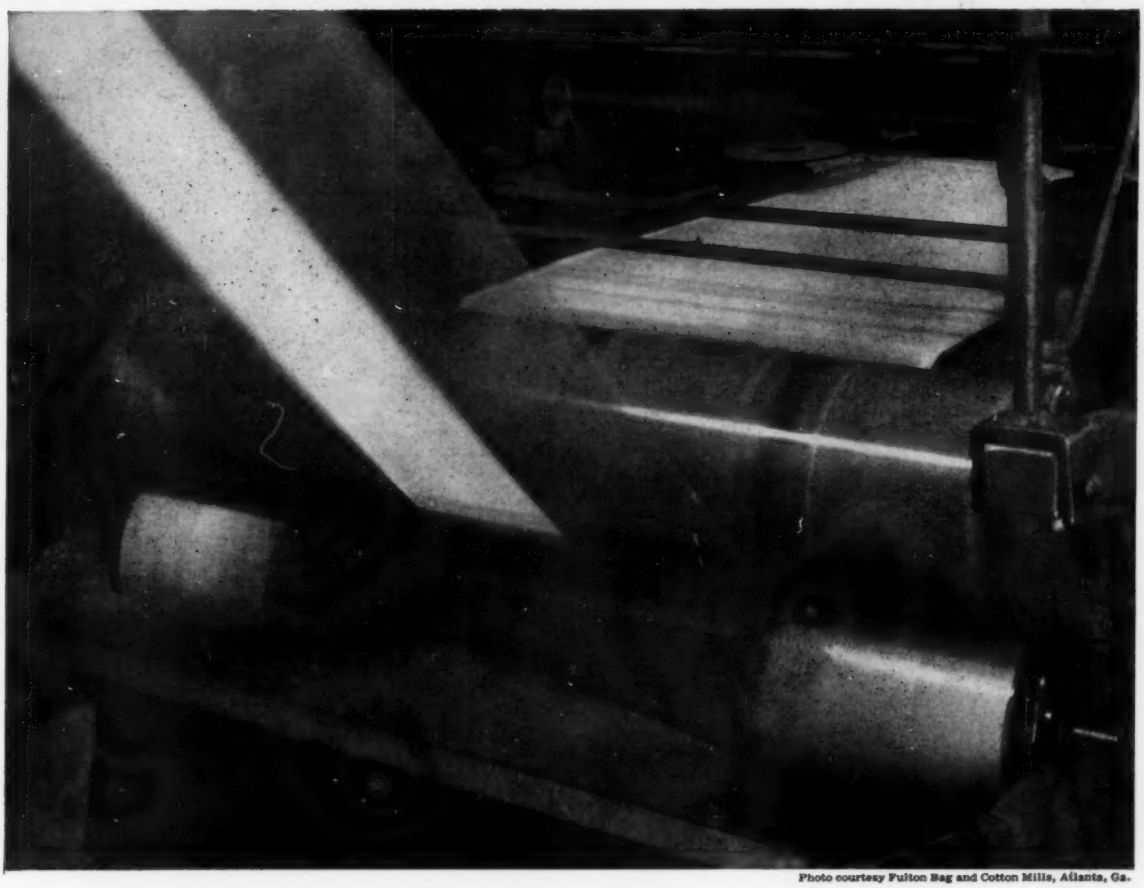


Photo courtesy Fulton Bag and Cotton Mills, Atlanta, Ga.

How to "Net" a Higher Profit

One way to net a higher profit is to improve product quality. And many more than one textile manufacturer has found PLIOLITE LATEX can do just that.

Take the leno fabric shown above. Its manufacturer was having trouble in obtaining full, bright colors that would last. Then he switched to a pigment dye system based on PLIOLITE LATEX. The results: Brilliant, crock-resistant colors plus excellent hand and good binder properties.

PLIOLITE LATEX is a colloidal dispersion of a high styrene-butadiene copolymer. It is easily formulated into pigment vehicles that dry rapidly to form tough, flexible, abrasion-resistant finishes. Its excellent mechanical stability permits the development of colors to their fullest extent and simple, straight application of the finish to the fabric – on existent equipment.

Crock-resistant pigment dye systems are but one use for PLIOLITE LATEX in the textile industry. CHEMIGUM and PLIOVIC Latices by Goodyear are also finding wide application in permanent sizes, saturants, other types of finishes, inks and adhesives that improve both appearance and performance. For details, write to: Goodyear, Chemical Division, Akron 16, Ohio.

Chemigum, Plioflex, Pliolite, Plio-Tuf, Pliovic – T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

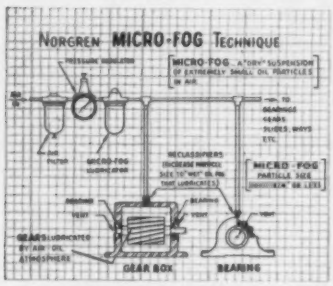
CHEMIGUM • PLIOFLEX • PLIOLITE • PLIO-TUF • PLIOVIC • WING-CHEMICALS

High Polymer Resins, Rubbers, Latices and Related Chemicals for the Process Industries

Now...Better Lubrication For TEXTILE MACHINERY

. . . How Norgren MICRO-FOG Lubrication reduces wear on bearings, gears, chains, cams, slides, ways

The Norgren MICRO-FOG principle has made practical the application of oil-fog lubrication to all types of textile machinery, lubricating bearings, gears, chains and other machine parts which in the past have been lubricated by splash systems, force feed systems and hand methods. Today, Norgren MICRO-FOG Lubricators are providing better lubrication — longer machine life—for large and small machines in all types of industry.

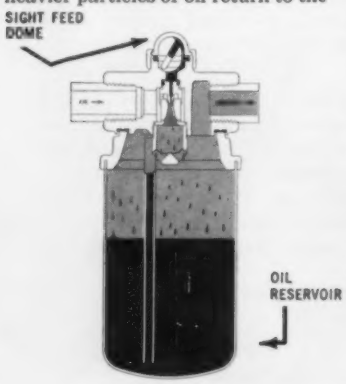


What is Norgren MICRO-FOG?

Norgren MICRO-FOG is an airborne suspension of extremely small oil particles (.00007874" or less in diameter). Because the oil particles are so small, they can be conveyed long distances through complex piping systems without reclassifying into larger drops and flooding the lines with oil—a condition formerly not possible with conventional oil-fog systems. Only one lubricator is need per machine.

How is Norgren MICRO-FOG Formed?

Air passing through the venturi section of a Norgren MICRO-FOG Lubricator creates a pressure differential that draws oil from the reservoir. The oil is allowed to flow at a controlled rate into the venturi section. The venturi creates an oil fog, discharging it into the upper regions of the oil reservoir. The heavier particles of oil return to the oil supply. Only the finer particles of 2 microns (.00007874") or less are carried into the air line.



How is MICRO-FOG Lubrication Better?

1. MICRO-FOG particles impinge upon the bearing surfaces, covering them completely and providing a continuous film of lubricant. 2. MICRO-FOG Lubricators automatically supply just the right amount of oil for lubricating machine parts — no more, no less. 3. The slight air pressure in bearing or gear housings prevents entry of lint or foreign material. 4. MICRO-FOG makes possible complete textile machine lubrication with a minimum of air consumption. 5. 360° visibility of oil flow simplifies adjustment of oil feed rate and provides visual assurance that the lubricator is operating.

CONTROLS AND FILLER PLUGS EQUALLY ACCESSIBLE FROM BOTH SIDES
360° VISIBILITY OF OIL FLOW
OIL SUPPLY VISIBLE
1 QT. OIL CAPACITY
Norgren Micro-Fog

Model S3406-8S
300 BEARING INCH CAPACITY

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C. A. Norgren Co.
3454 So. Elati St., Englewood, Colorado

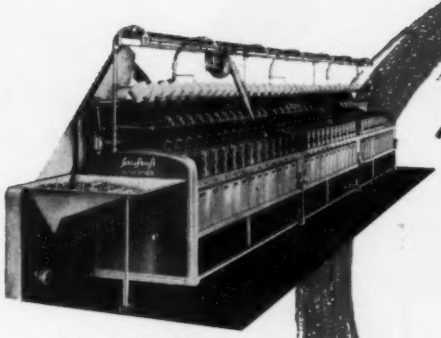
Shorts and Remnants

those fancy Park Avenue magazines writes us "that the textile industry receives a boost" in an article in said magazine telling engaged girls they can get perfection in wedding gowns if they plan said finery from the many fabrics available. And what else could they plan said finery from —aluminum, cast iron, old bulrushes or fig leaves?

► Publicity folks are funny. Seems one of them thinks you all would be interested in knowing that "Cleopatra herself would have been just as alluring, and much more comfortable, if her headgear had been held firmly in place by Dot Snappers . . . " like the beach hat in the photo below:

Come to think of it, did Cleo wear headgear? And we could judge better if the picture showed more girl, but that's all they sent us.

► We are sorry not to have any news from the Uranium or Geiger Counter folks this month, but if your soul yearns for adventure in the jungles you could join up with **Jack Anderson,** 1621½ Park Ave., Los Angeles, who writes to "Mr. Lippy" of TI (does he mean S&R?) that "we are missionaries in South America and we have a mission with a (used to be) savage tribe . . . 300 of these people. Now I am interested in getting a machine for making thread for weaving . . . not to be worked by hand, but by power . . . not to be very big. . . . " Now Mr. Anderson, you can write Saco-Lowell Shops and Whitin Machine Works, but we still would like to know what kind of "power" and what happens to a



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Autocopser's Exclusive

ROTARY YARN GUIDE

SPEED = *lower investment costs*

SPEED = *higher production*

SPEED + *rotary yarn guide* = *no yarn guide wear*

SPEED + *yarn guide design* = *no yarn damage*

SPEED + *quilling know-how* = *superior filling quality*

makes <u>continuous</u> quilling speeds of 10,500 - 12,000 R. P. M. an actual <u>daily</u> performance in hundreds of mills!

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First Name in Automatic Quillers the World Over

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THE TERRELL MACHINE COMPANY, INC., 3000 S. BLVD., CHARLOTTE, N.C.

store fresh

washer fresh

their wrinkle resistance is the same with

RHONITE R-1

The way these dresses look after the skimpiest of ironings, you'd think they were twins too! Yet one's been shrugging off wrinkles during a lifetime of washdays. Which all goes to show that cottons—or blends of cottons—hold onto the wrinkle-resistant enthusiasm of their youth when treated with RHONITE R-1 resin. Our wise little owl can see this spells luxury wear with the briefest of care.

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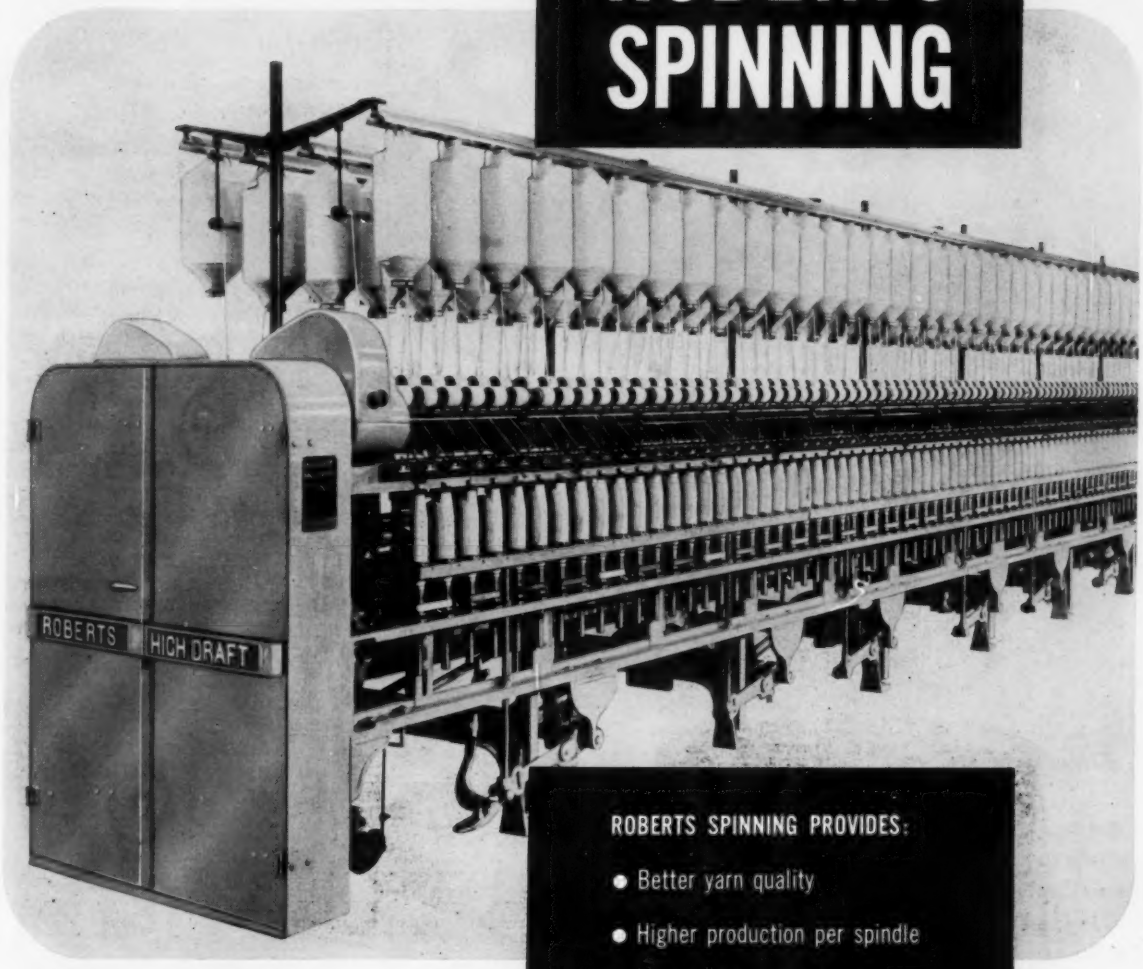
ROBERTS SPINNING



ROBERTS SPINNING PROVIDES:

- Better yarn quality
- Higher production per spindle
- Increased package sizes
- Lower maintenance expense
- Lowest first cost

COMPARE ALL 3

For high production, top yarn quality, and dependability, Roberts Spinning is second to none in America today—and, at the lowest investment per spindle!

2¼ MILLION SPINDLES

In Changeovers and complete Frames—Roberts Spinning has been overwhelmingly accepted by American mills—over 2¼ million spindles now equipped with ROBERTS HIGH DRAFT.

Available in 39 inch, 36 inch and the new Roberts 25 inch width Frames.

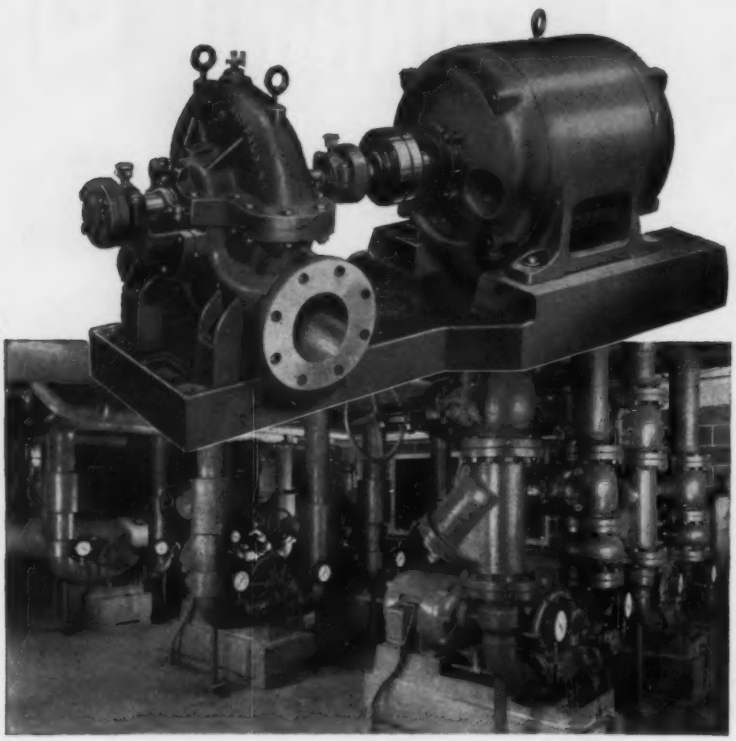
All standard features used on Roberts Spinning Frames can be adapted as Changeovers to your existing frames.

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

For further information use Handy Return Card, Page 229

HOW "BUFFALO" PUMPS AID TEXTILE QUALITY CONTROL



Air washing, humidification and cooling are recognized by textile firms as "musts" in maintaining quality of carding, spinning and knitting. And since air conditioning units can be no more dependable than the pumps that supply their water, the choice of pumps is frequently "Buffalo". This choice is based on reliable performance and user satisfaction going back 79 years. Ask the engineer or the maintenance man who knows pumps — he'll tell you "Buffalo" is the *safe* buy to insure best long-term operation of your installation. Write for Bulletin 955 and check the "Q" Factor* construction details that mean efficiency — strength — freedom from troubles.

**The "Q" Factor—the built-in Quality which provides trouble-free satisfaction and long life.*

"Buffalo" PUMPS

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Sales Representatives in all Principal Cities

A BETTER CENTRIFUGAL PUMP FOR EVERY LIQUID

Shorts and Remnants

"used to be savage" when he gets too many ends down. Looks like a chance for a future article on "Textiles Among the Thread-Hunters." Let Mr. Lippy write it.

► A good TI reader in Charlotte, N. C., writes for all papers we have printed on dyeing of Dacron in last few years.

► Also on fibers, a Chemstrand ad is headed "Nylon or Nothing." There's a choice for you. Where's the nearest nudist colony?

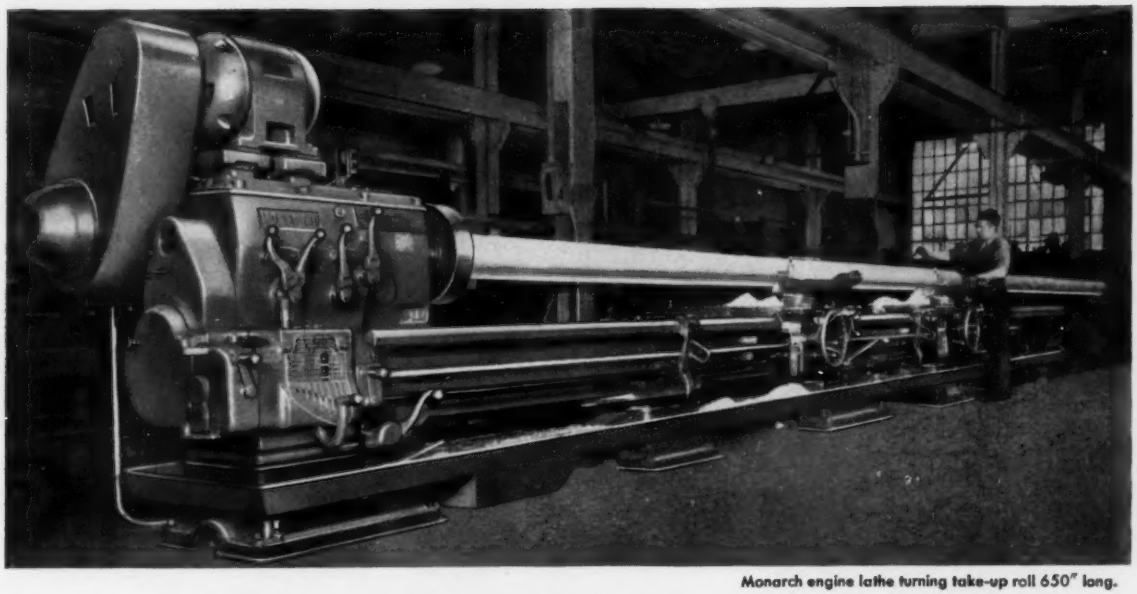
► Textile Machine Works, Reading, Pa., recently honored **Norman E. Richards,** V.P., for his 50 years with this good company, in which time said company has grown from 50 employees to more than 3,400. Mr. Richards is head of the braiding machine division.

There'll Always Be a Textile

Robert L. Huffines, Jr., Pres. Textron American and Amerotron, speaking at a Residence Hall dedication at Philadelphia Textile Institute on industry competition for students, said in part " . . . The need for textiles is so basic and essential and permanent that the time and energy devoted to it are a sound investment. There is no fad or passing fancy about the textile industry as such and its fundamental nature means there will always be a good demand for the trained technician, the designer, the executive, the mill man, the salesman, etc. . . . "

"Purchasing for Textile Mills"

The Section on PURCHASING in Feb. TI is drawing comments and re-



Monarch engine lathe turning take-up roll 650" long.

It takes Machines like this...

(plus C&K "know-how")

...to make Looms like this

C&K Felt Loom, Type F-2 650" between swords, 13 harness (8/10" space) 3 x 3 box. Shown in service at Albany Felt Co., Albany, N. Y.

This giant C & K Loom . . . *55 feet between swords* . . . produces papermakers' wool felts that are used in manufacturing the paper on which this message is printed.

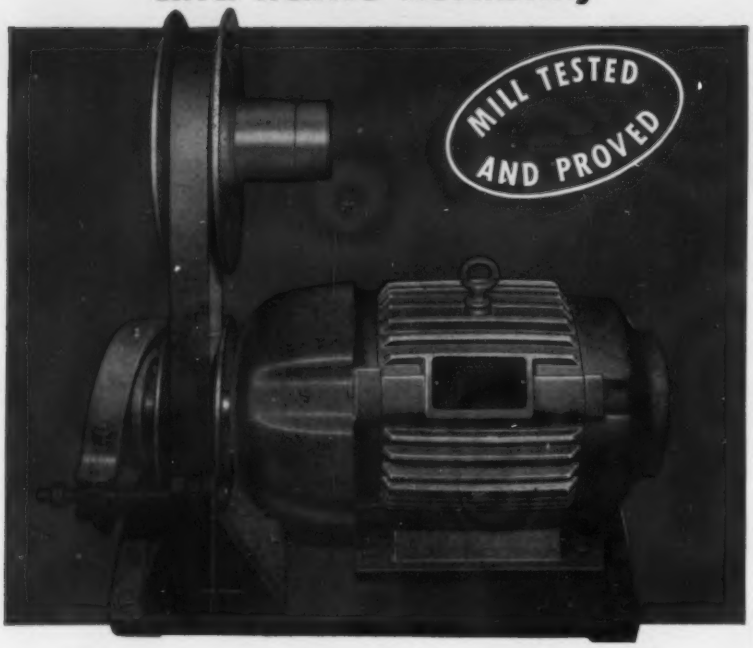
CROMPTON & KNOWLES *Loom works*

WORCESTER 1, MASSACHUSETTS, U. S. A.

CHARLOTTE, N. C. • PHILADELPHIA, PA. • ALLENTOWN, PA.
Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.
Crompton & Knowles of Canada Limited, Montreal, Quebec

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Fabrics... which are WOVEN Fabrics.

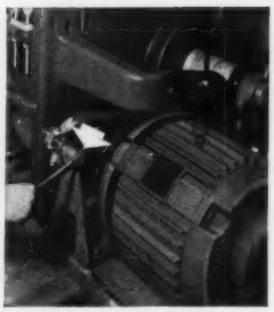
Increase spinning efficiency and frame flexibility



REEVES Vari-Spin Drive

Fast, easy adjustment!

For *exact* cylinder speed regulation—from 500 to 1450 rpm—simply turn shifting screw with wrench . . . *with frame in operation!* Get the required speed—in seconds!



Top production

Optimum spinning efficiency demands the highest front roll rpm that will maintain acceptable yarn quality (ends down) and constant work loads (sides per spinner.) REEVES Vari-Spin permits speed adjustments —while the frame is running—to compensate for variations in humidity and roving quality.

Durable, flexible performance

Maximum frame utility requires drive flexibility for today's yarn count and fiber blend changes, as well as future traveler and ring improvements. With almost 3 to 1 speed range, the rugged and reliable REEVES Vari-Spin permanently reduces wasted fixer hours and frame down time.

Get the story on "Mill Proved" Vari-Spin from your REEVES representative, or write for folder T22-G561

REEVES DIVISION • COLUMBUS, INDIANA

RELIANCE ELECTRIC AND ENGINEERING CO.

Shorts and Remnants

quests for reprints from mills, suppliers, salesmen, and purchasing agents. Below are excerpts from typical letters. A prominent purchasing agent, a contributor and anonymous, said he was having a hard time keeping quiet as folks were picking things out of the article and crediting them to him. Another mill buyer, also anonymous, tells us it was a good article and should do good for us as well as salesmen. "You know, we can't buy from all of them," he said.

" . . . would appreciate very much if you could send me four reprints. . . . "

W. C. HOFFMAN
Gen. Pur. Agt.
Pacific Mills,
Greensboro, N. C.

" . . . The article on 'Purchasing for the Textile Industry' looks very complete. . . . "

D. G. DONOVAN
Dir. of Purchases
Pepperell Mfg. Co.,
Boston, Mass.

" . . . This is one of the best prepared items I have ever read in any magazine. This will be material I would like all of our salesmen to have a copy of to read. . . "

HARRY E. EVANS
Supt.
Wick Narrow Fabric Co.
Franklin, Va.

". . . Although your article is written primarily for the textile industry, I think the general principles covered by it are applicable to practically every industry. . . ."

E. R. RATH
Exec. V.P.
Nat'l Ind. Leather Assn.
New York, N. Y.

" . . . A magnificent job of factual reporting. It should be required reading for all individuals connected with textiles in any way, from the top management on down, because the facts, as presented, cannot help but stress the scope and value of good purchasing to the textile industry; and possibly may result in the rightful recognition to a department that so often does not get it. . . . "

L. L. FRONEBERGER, JR.
E. H. Jacobs Southern Div.
Greensboro, N. C.

" . . . I thought the article was very

WITH

IMMUNOL

(Reg. U. S. Pat. Office)

PROVEN BY 10 YEARS OF CONSTANT USE IN LEADING MILLS

YOU

Eliminate FIRE HAZARDS

IMMUNOL cleans without any danger whatsoever of fire. Used in exactly the same manner as other solvents, IMMUNOL cleans textile machine parts, processing equipment, and general mill equipment effectively and faster.

Reduce CLEANING COSTS

IMMUNOL costs approximately 13¢ a gallon when mixed to proper proportion and ready for use. A small quantity of IMMUNOL added to water makes a potent solvent, extremely efficient and equally effective for cleaning of metal, wood and plastic parts.

Simplify CLEANING PROBLEMS

IMMUNOL has hundreds of uses. It is a fast, effective general cleaner for mill equipment, machines, reeds, harness, heddles, floors, walls, windows, etc. It removes size, lint, oil, dirt and soil easily and quickly from machines. IMMUNOL is virtually a universal cleaning medium with powerful detergent action and yet is unusually mild. It can be applied by spraying, brushing or dipping and need not be wiped dry; if necessary, it can be wiped off or blown dry quickly and easily.

Speed CLEANING

When IMMUNOL is used for cleaning, rejects, resulting from unclean equipment, are reduced. Looms are thoroughly and quickly cleaned by spraying the IMMUNOL solution. By merely removing the spray gun from the air hose, the loom can be blown dry rapidly. No rags or brushes need be used, and no manual scrubbing need be done.

Inhibit RUST

IMMUNOL provides protection against rust to most ferrous metal parts of machinery. There's no danger of rusting caused by the moisture in compressed air. That's why it is perfectly safe to blow-dry looms cleaned with IMMUNOL.

. . . MANUFACTURERS OF . . .

GLYCOLA	FIBREGARD	ACTIVOL
REVERSOL	FIRMTOL	POTENTOL

For a FREE DEMONSTRATION of the versatility of IMMUNOL, write or phone

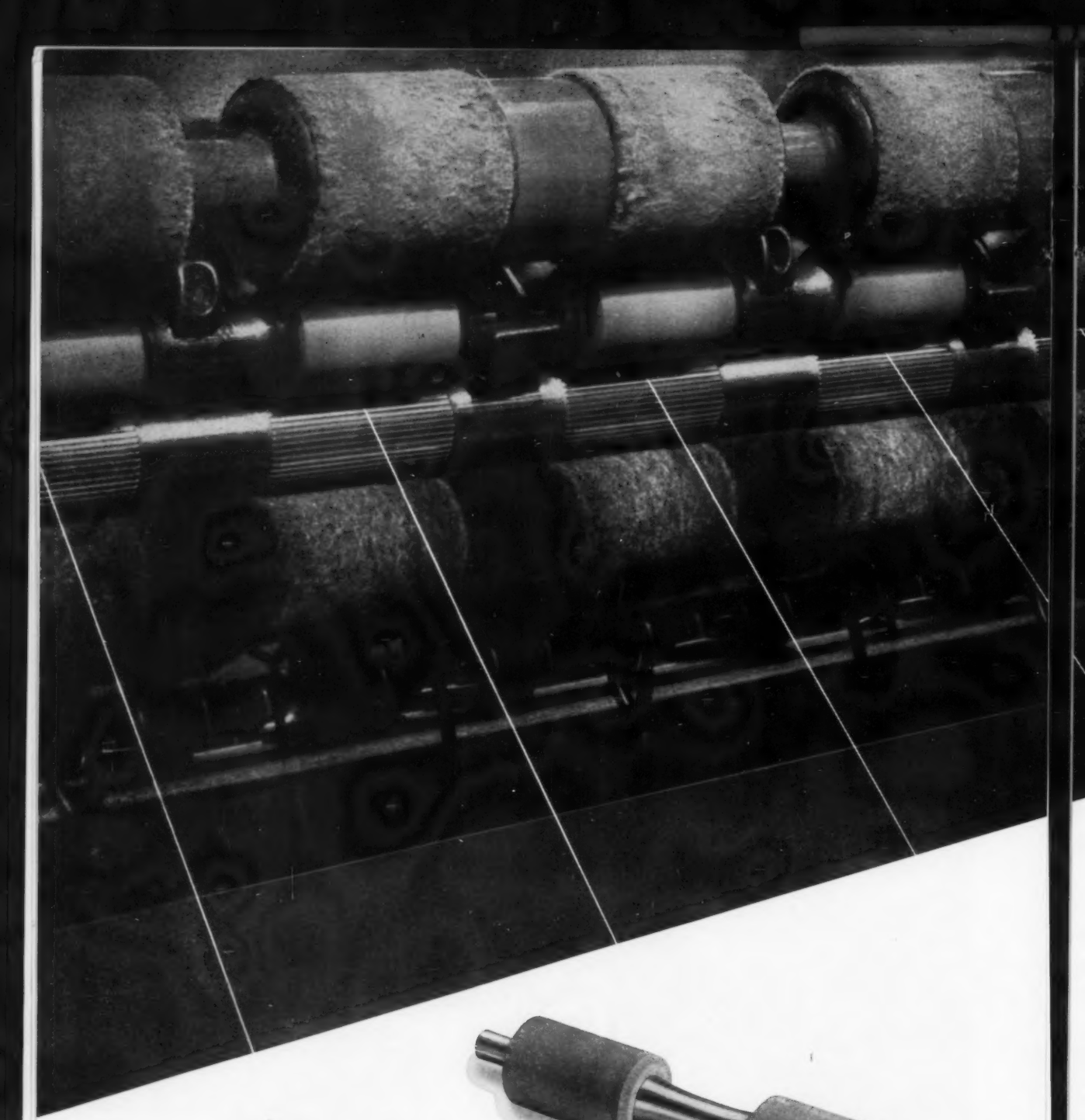
HARRY MILLER CORP. HAMICO 4th & BRISTOL STREETS PHILADELPHIA 40, PA

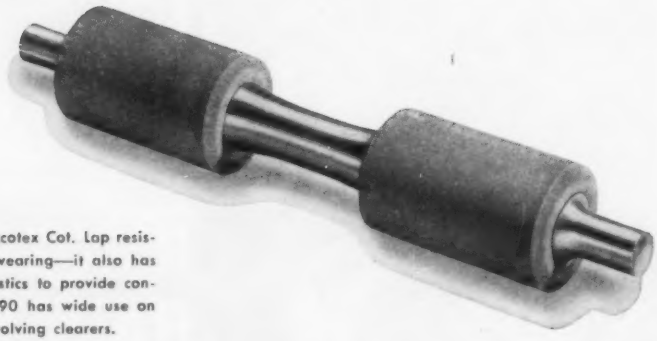
Phone: DAvenport 4-4000

HARRY MILLER CORP.

Original Products and Processes Since 1936

4th and Bristol Streets, Philadelphia 40, Pa.





This is the remarkable J-490 Accotex Cot. Lap resistant, clean running, and long wearing—it also has just the right surface characteristics to provide consistently good yarn control. J-490 has wide use on all types of equipment with revolving clearers.

Not a lap-up in sight!

The reason: J-490 Accotex® Cots have built-in lap resistance

In mill after mill, the story is always the same: "Armstrong J-490 Accotex Cots help prevent front-roll lapping." And that's the case whether the mill is spinning natural fibers, synthetics, or blends.

J-490 provides this unusual lap resistance because it's made of a special, patented synthetic rubber compound. Electrolytes built into this compound neutralize the electrical attraction between cot and fiber, eliminating the basic cause of lapping. In fact, J-490 Cots actually tend to repel broken ends.

This cot offers other important spinning advantages, too. Because it contains no rough fillers, its drafting surface is always uniformly smooth. The J-490 won't pull short fibers from the stock and cause excessive ends down. It turns out strong, uniform yarn—year after year.

All that's needed to keep the J-490 Cot spinning like new is an occasional rebuffing. Why not arrange for a test frame next time your Armstrong man calls? And write for the booklet, "Armstrong Textile Roll Coverings and Mill Supplies." Address Armstrong Cork Company, Industrial Division, 6504 Ivy Street, Lancaster, Pennsylvania.

If eyebrowing is a problem in your spinning room, try the Armstrong NO-742-S Cot. It has a "constant friction" surface that packs waste back under the clearers and stops eyebrows from forming.

Armstrong ACCOTEX COTS

. . . used wherever performance counts

6 TIMES A YEAR is only buffing needed for this Tennantized weave room floor.

3 REASONS WHY YOU CAN NOW

Save 30% to 60% in Floor Maintenance Costs

Important NEW improvements in the TENNANT System now make it possible—a saving of 30% to 60% in floor care costs annually, compared to 5 years ago. Here's why, as reported by many mills:

1. You use 50% less manhours today in cleaning a TENNANT-treated floor because its dirt-resistance has been almost tripled. You buff only 1/5 to 1/10 as often . . . need only a dry mop for daily cleaning.

2. Floor seals last 4 times longer today because they are more wear-resistant, stand up better under oil, grit and dirt. Bright, lustrous finish is easily renewed without need for sanding.

3. You save time in problem areas, like weave rooms, with new TENNANT materials that resist humidity, starch, discoloration, etc. Saves manhours (see photo above). *Write today for details; ask for estimate of savings possible in your mill.*

TENNANT
ESTABLISHED 1870

G. H. TENNANT CO.
2524 N. 2nd Street
Minneapolis 11, Minn.

FLOOR MAINTENANCE SYSTEM

Shorts and Remnants

well written and included many points that would be interesting to our sales force. . . . "

WALTER H. WILKS
Minneapolis-Honeywell Regulator Co.
Philadelphia, Pa.

" . . . Most interesting . . . . would like twelve (12) copies. . . . . "

W. A KARL
Pres. Firestone Textiles
Akron, Ohio.

" . . . You have done a fine job and we feel certain it will be welcomed and appreciated by management."

G. A. RENARD
Sec.-Treas.
Nat'l Assn. Purchasing Agents
New York, N.Y.

" . . . The job is so excellent, in fact, that I would appreciate very much receiving 25 reprints. . . . "

R. E. BROWN
Chem. Sales Mgr.
Emery Industries, Inc.
Cincinnati, Ohio.

And requests for reprints are still coming in. Good firms like Armstrong Cork Co., Warwick Chemical Co., J. E. Rhoads & Son, E. H. Jacobs Northern Div., Graton & Knight Co., are some of the others.

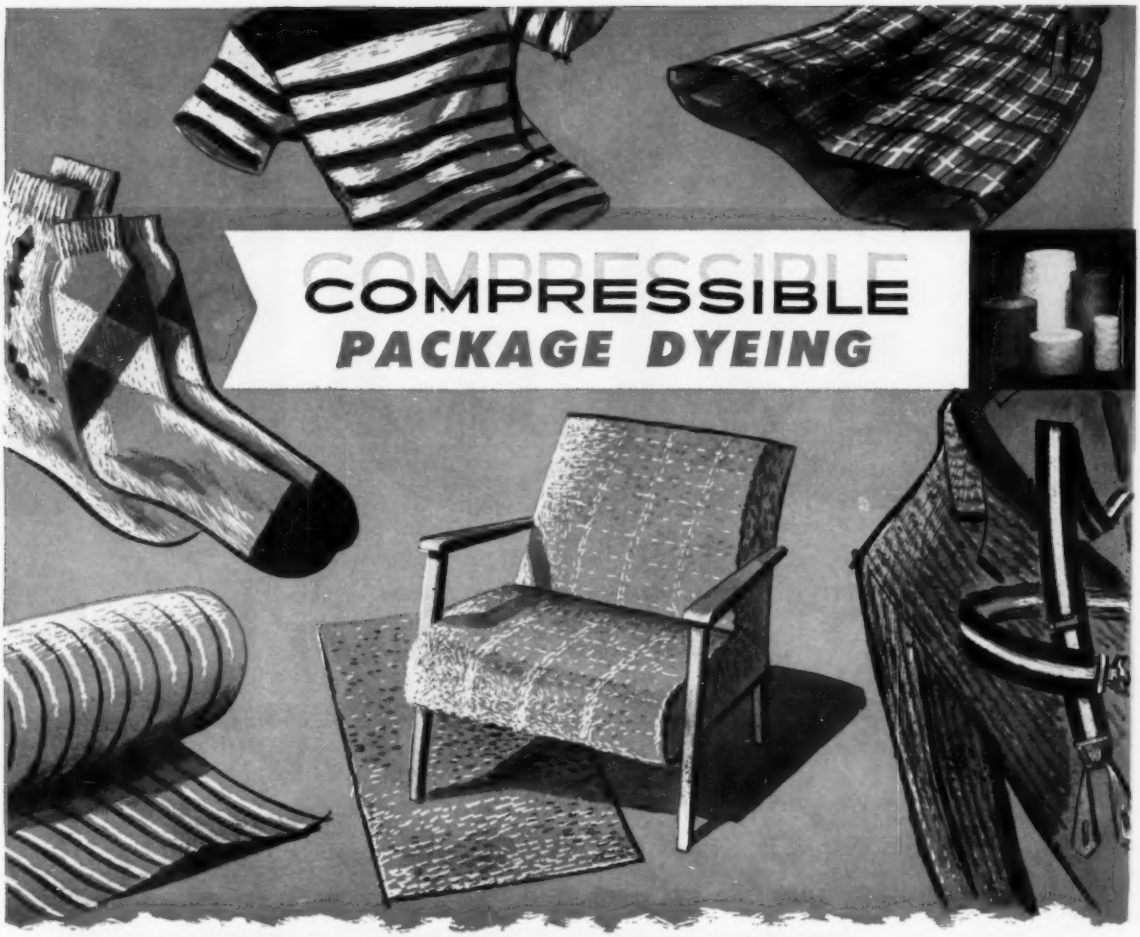
Welcome F. C. Huyck

Senator **John Sparkman** (right) of Ala., Adlai's 1952 running mate, along with Miss **Joanne Sharp,** Alabama Maid of Cotton, join **R. B. Neville** (left) and **G. E. Walls,** service

engineers for F. C. Huyck & Sons, in recent welcoming party for this firm's new felt mill at Aliceville, Ala.

Wants Pile Fabric Finishing Machine

"One of our good friends in Switzerland (Drytester, G.m.b.H.



THE SECRET OF ITS WIDE ADAPTABILITY

1. VARIATION IN DENSITY
When winding dye packages on a commercial basis, density is bound to vary from one package to another.

2. VARIATION IN SHADE
These variations in density will cause variations in shade.

3. EQUALIZED DENSITY
Franklin Process Compressible Package Dyeing is the only package dyeing method whereby density of all packages in a machine can be equalized (see diagram).

4. UNIFORM SHADE
Exceptional uniformity of shade in Franklin Process dye batches is a logical result.

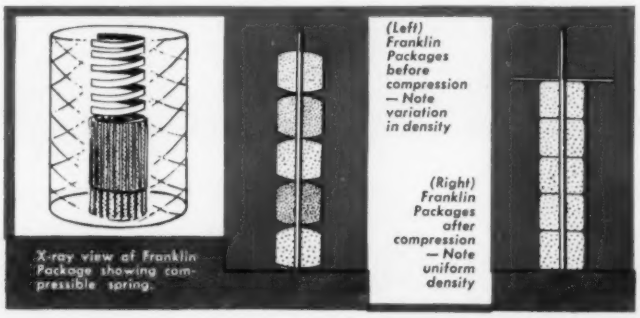
5. DYE BATCHES AS LARGE AS 2500 LBS.
— can be supplied if desired.

6. USE FRANKLIN PROCESS DYEING
— and get uniform shades.

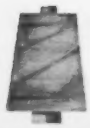
Franklin Process

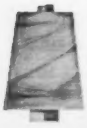
PROVIDENCE • PHILADELPHIA • GREENVILLE
CHATTANOOGA • FINGERVILLE, S. C.
New York Representative — 40 Worth Street

YARN MERCHANTS AND LARGEST PACKAGE DYERS IN THE WORLD — DYEING EXCLUSIVELY ON THE FRANKLIN SPRING


X-ray view of Franklin Package showing compressible spring.
(Left) Franklin Packages before compression — Note variation in density
(Right) Franklin Packages after compression — Note uniform density

look





into the future with JETSPUN®

JETSPUN solution-dyed viscose yarn offers styling and performance qualities never before available. • JETSPUN presents unlimited sales and profit opportunities. • JETSPUN is remarkably versatile... ranging in use from the finest fashions in ready-to-wear, home furnishing fabrics to durable auto seat covers. • That is why JETSPUN is succeeding in new fields all the time—being developed into new and exciting fabrics every day.

Consider these distinctive JETSPUN features— what they can do for you:

1. JETSPUN is available in a wide range of colors, running from pastels to brilliant accent shades.
2. JETSPUN is colorfast to light, laundering, perspiration, crocking, dry cleaning, chlorine bleach, peroxide bleach, and gas fading.
3. JETSPUN offers the extra advantage of long wear at low cost found in viscose yarns.

American Enka stands ready to advise and assist you with the development of JETSPUN fabrics for new end uses. Why not call us today?

American **enka** Corporation • 206 Madison Avenue, New York 16, New York

HERE'S HOW
to solve finishing problems

problems of padding:

uneven extraction... high liquor retention... shading ... uneven pressures ... poor penetration ... resin mark-off... low abrasion resistance; these and other problems are greatly reduced by the Rodney Hunt Niptrol® Mangle which provides uniform nip across the full roll width. Send for complete information, contained in Bulletin 54.

problems of washing:

tension... low speed... high maintenance cost... poor washing; Rodney Hunt's Tensitrol® washers provide efficient, fast washing of most fabric weights and contribute to the hand and appearance of the finished goods. Catalog 849 has full information on Tensitrol Open Width and Rope Washers.

problems of bleaching:

costly kier system... rope marks... high chemical loss... spotty bleaching; bleaching ranges are made by Rodney Hunt for both Becco and DuPont systems. Bleaching Rangettes®, for capacities from 250 to 1500 pounds per hour, full-size ranges for the largest mills, or combinations of both; all are described in Catalog 103. Ask for your free copy.

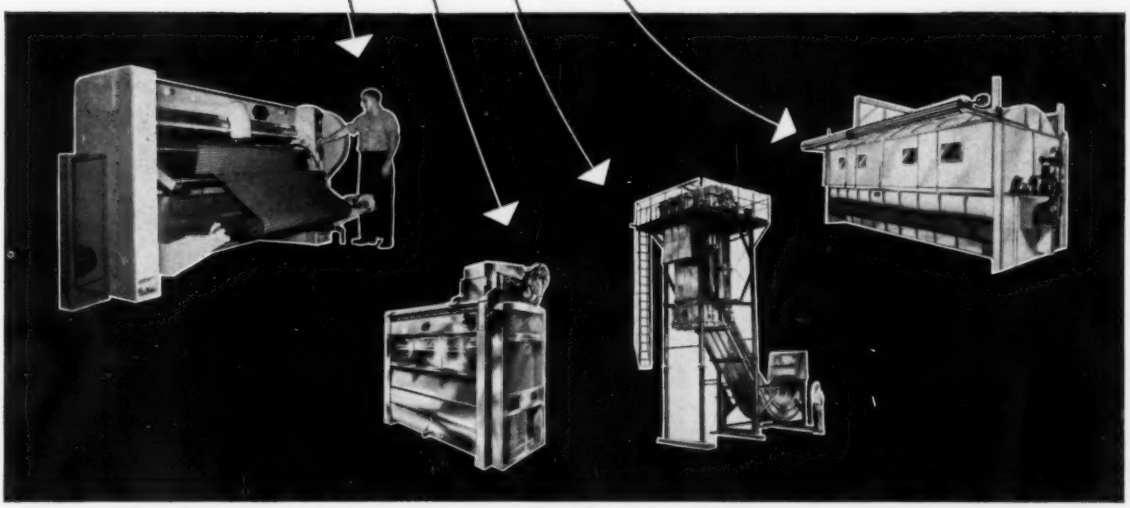
problems of dyeing:

chafe marks... shading... excessive dye consumption ... tension ... uneven dye distribution; these troubles are solved with Tru-Shade® Dye Becks which give efficient, uniform dyeing and quick change-over from shade to shade. Write now for details of the Rodney Hunt Tru-Shade design.

Other Rodney Hunt Finishing Equipment

includes Pad Steam Dye Ranges, Desize Ranges, Wringmaster® Squeezers, Padders, the Barotor, Slack Loop Washers, Scutchers, Rolls and Reels.

In over a century of service to the textile industry, Rodney Hunt has amassed a wealth of specialized process knowledge and experience. Put us to work on your problems.



RODNEY HUNT MACHINE CO.
TEXTILE MACHINERY DIVISION
66 MILL ST., ORANGE, MASSACHUSETTS, U.S.A.

RODNEY HUNT®

"size" is important

be "size-wise"...choose CLINTON starches

Sizing *is* important . . . and so is finishing. That's why more and more textile mills are choosing Clinton starches.

For warp sizing, Clinton starches are widely used. (In fact, in many mills they're the standards for comparison.) They increase strength . . . reduce abrasion . . . lay fibers . . . lubricate warps. — All these advantages mean improved weaving efficiency.

So for better sizing . . . better serving . . . better finishing — choose starches by Clinton.

and remember : technical service in connection with your specific problems is available upon request.

Quality products
FROM THE WORLD'S CORN CENTER

CLINTON

CLINTON FOODS INC.
Corn Processing Division
CLINTON, IOWA

Shorts and Remnants

Lungern) asked us to locate for one of their Swiss customers—a large spinning/weaving mill—the address of the manufacturer of a new machine for the finishing of pile goods, which apparently seems to be on a completely automatic principle, making the three processes all at once, and producing an excellent end product. . . . "

ROBERT H. WEIR
Pres-Treas.
New England Waste Co.
Atlanta, Georgia

► Anyone care to answer this one?

Wants Address Muff Dyer

" . . . It will be appreciated if you will give us the address of the Central Yarn & Dyeing Company [Package Dyeing Stretch Nylon Yarn in Muffs, Jan. '56]."

A. J. RUISINGER
Red Fox Mfg. Co.
Dallas, Tex.

► That's easy—Central Yarn & Dyeing Co. is at Gastonia, N. C., yarn center of the U.S.A.

Treating Wool Scouring Waste

"We would appreciate your sending us several reprints or tear sheets of 'Improved Method for Treatment of Wool Scouring Waste' [Jan. '56] . . ."

T. O. OTT
Lockwood Greene Engineers, Inc.
Spartanburg, S. C.

Wants Fabrics Identified

"We are subscribers to TEXTILE INDUSTRIES and we are imposing upon you to ask whether you can identify two pieces of fabric as to what they are called and upon what kind of machines they are made. . . ."

THOS. M. SCRUGGS
Visinet Mill
Bemis Bro. Bag Co.
St. Louis, Mo.

Zack Fiber Glass Radiant Heaters

"One of our German customers would eventually be interested to acquire this type of heaters. . . . "

M. TASCHE
Converters Machine Co.
Greenwich, Conn.

► How about trying one of TI's advertisers like Weigand or Red Ray.

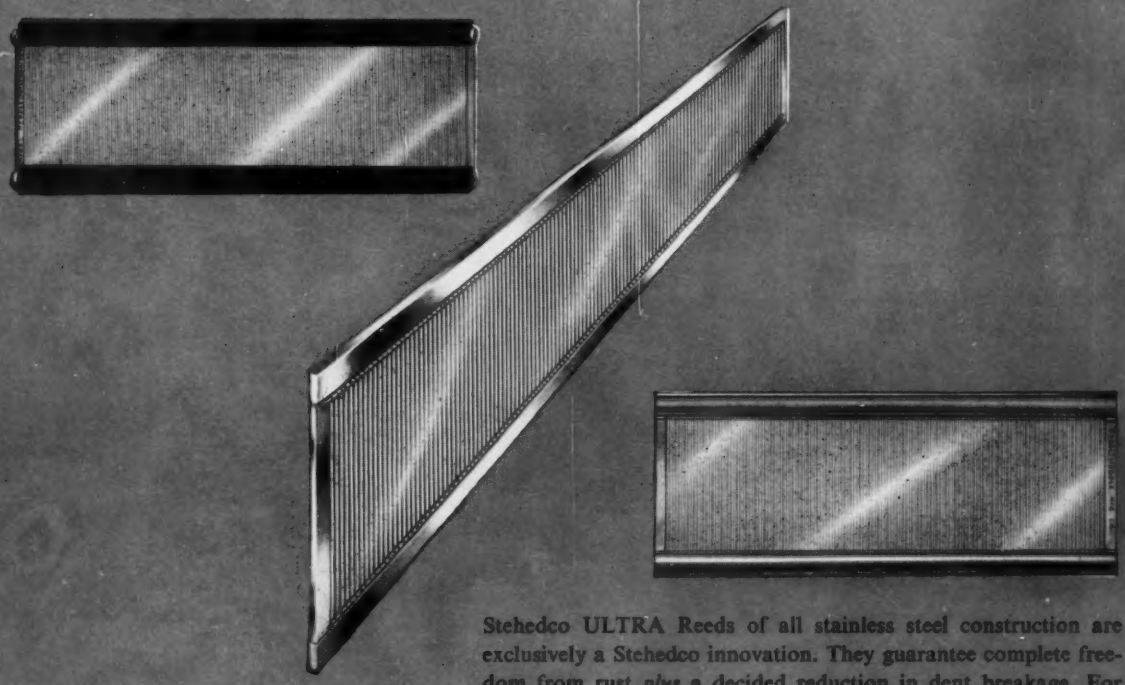
Pairing Shoe Laces

"We are endeavoring to learn through your magazine the names of

Stehedco Quality REEDS

Weave Quality Products

Stehedco Quality Reeds are made with the skill of more than fifty years' experience, precisely to your specifications, to suit your particular requirements. You get exactly what you want without delay because we carry the largest stock of finest finished dent wire, stainless steel and regular, at our five plants located in the heart of the textile areas.



Stehedco ULTRA Reeds of all stainless steel construction are exclusively a Stehedco innovation. They guarantee complete freedom from rust *plus* a decided reduction in dent breakage. For super wear resistance try our fine quality hard chrome plated reeds.

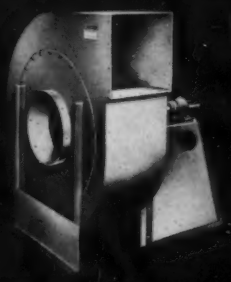
When you buy Stehedco Quality Reeds you get better delivery on any quantity, consistent with finest quality workmanship, because of our greater capacity, larger working force, and modern facilities. You are always assured of complete satisfaction all along the line.

Stehedco
STEEL HEDDLE MFG. CO.
PHILA. 32, PA.
SOUTHERN SHUTTLE DIV.
GREENVILLE, S. C.
Southern

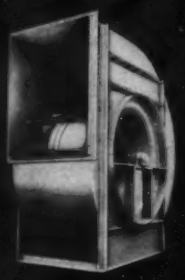
Other Plants and Offices: Granby, Quebec, Canada • Lawrence, Mass.
Providence, R. I. • Greensboro, N. C. • Atlanta, Ga.

Use the Best . . . Use Westinghouse for Fume, Vapor and Dust Exhaust!

VENTILATING SETS
Completely self-contained for indoor or outdoor installation. Two types: Direct connected or V-belt driven.



INDUSTRIAL FANS
For dust control, collecting and conveying wastes or raw materials.



SILENTVANE FANS
Quiet and efficient . . . designed for wide range of commercial and industrial uses.

AXIFLO FANS
High efficiency, large volume. Available in straight-through and elbow types.

*No. 2 of a Series

Put Air to Work Economically for:

1. Heating and ventilating
*2. FUME, VAPOR AND DUST EXHAUST
3. Make-up air for balanced ventilation
4. Cooling and dehumidifying
5. Electronic Air Cleaning
6. Mechanical Draft for Steam Boilers

For complete application service, call your Consulting Engineer or your nearest Sturtevant Division Sales Engineer . . . or write Westinghouse Electric Corporation, Sturtevant Division, Dept. 7 D, Hyde Park, Boston 36, Mass.

WESTINGHOUSE AIR HANDLING

YOU CAN BE SURE...IF IT'S Westinghouse

J-80081

Shorts and Remnants

any companies who make a machine that automatically pairs shoe laces. . "

W. H. DUNCAN
Mgr.
Kalmia Braids, Inc.
Kalmia, N. C.

► We suggested Artos Eng. Co., Milwaukee, Wis.; Berk & Marsh, Inc., Pawtucket, R. I. Information courtesy New England Butt Co.

To Reprint "Good Napping"

"An article entitled 'Don't Overlook the Essentials for Good Napping' [July '55] contains some excellent information about napping. We would like to make reprints of this. . . . "

B. A. CHESTON
Procter & Gamble Co.
Cincinnati, Ohio

West Texas—God's Part of the World

" . . . I am therefore trying to find out where Parks-Woolson is located. . . . Some people . . . . think we are isolated out here in West Texas, but after having lived here over two years I think it is God's part of the world. . . . "

RUBE JENNINGS
Postex Cotton Mills
Post, Texas

► Parks & Woolson Machine Co. is at Springfield, Vermont, Rube. It's good to hear from you again.

Here and There

Martin J. Lydon, Pres. Lowell Tech, sends in a belated request for extra copy of spread on America's Textile Schools [Apr. '55]. **P. J. Wood,** Royce Chemical Co., says how come we sign off in Feb. S&R until the "Ides of March" two weeks after appearance of our March issue. We were just joking. You can't sign off ole S&R. It's a habit.

An anonymous letter has a clipping from another textile magazine stating that S. C. leads the U. S. A. in spindles. In our book the score is N. C. 7,515,753; S. C. 6,540,274. Want to argue?

L. A. Stadler, V.P. Klopman Mills, Inc., Greensboro, N. C., wants to know maker of automatic fabric inspector [Jan. '56] and it is Lindly Instrument & Mach. Corp., Mineola, L. I., N. Y. **B. O. Tennington Cate,** Almelo, Holland, wants more data on a warp taping device for slashers [May '55], and R. C. Honeycutt, Ass't Supt. Cone Mills, Greensboro, N. C., kindly sends him drawing of

Du Pont's "Latyl"* Dyes for "Dacron"* and blends with "Dacron"

FOR BEAUTIFUL FULL SHADES on fabrics of "Dacron" polyester fiber, be sure to use "LATYL" dyes. They were developed specifically for "Dacron" and blends with "Dacron". . . show good resistance to fading from light and atmospheric gas fumes . . . have excellent washfastness. All "LATYL" colors are mutually compatible and may be applied by carriers, by high temperature dyeing, or by the Thermosol method. Technical information is yours by writing E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

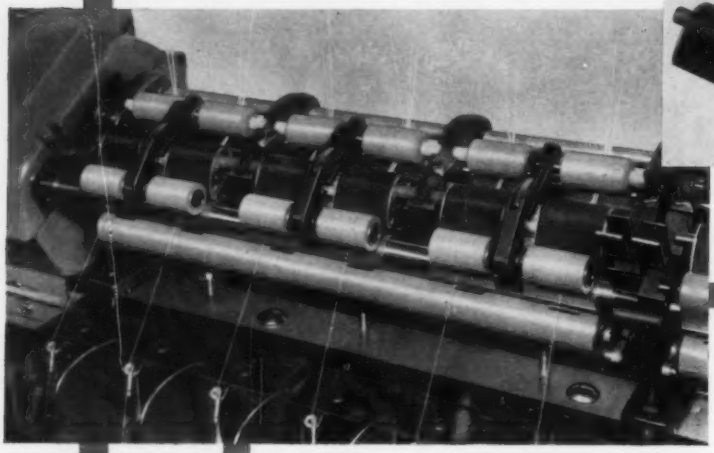
*Reg. U. S. Pat. Off.

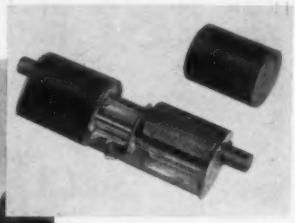
Du Pont Dyes

DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*





Improved "Stay Clean" Duo Roth Cage

5 Good reasons why

"STAY CLEAN"* DUO ROTH by SACO-LOWELL

WILL BETTER YOUR QUALITY, INCREASE PRODUCTION AND REDUCE YOUR COSTS.

OVER 1,400,000 SPINDLES OF REGULAR & STAY CLEAN NOW IN USE.

1. Of great importance is the ability to operate with drafts increased from 50 to 100% over conventional systems, and to do this without any reduction in the effectiveness of the fiber control. This maintenance of fiber control is reflected in a more uniform, stronger, and improved quality yarn from a given stock and with less ends down.

2. Stay Clean characteristics enable you to extend the cleaning cycle in some cases as much as 100% because there are no cap bars to get dirty and there is a minimum of clearer waste with a given draft.

3. The ruggedness of design and simplicity of construction, together with the use of anti-friction bearings, keeps maintenance at a very low figure.

4. All of these characteristics combine into a simple, easy to operate system, facilitating the attainment of quality and strength improvements from your present stock.

5. In practically every installation of "Stay Clean" Duo Roth there is an important reduction in the "ends down" per thousand spindle hours, thus reducing reworkable waste and increasing the overall operating efficiency of the spinning frame.

For further information, or a demonstration, contact the nearest Saco-Lowell Sales Office.

*Trademark

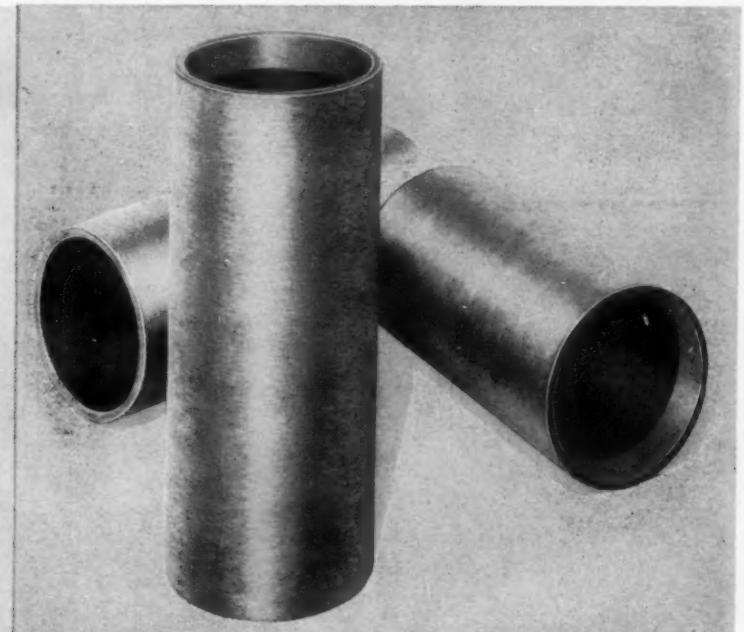
SACO-LOWELL
60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE; and SANFORD, N. C.
SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

New... from Sonoco!

DUROWELD

LAP ROLLS

for Lap Winders



Now from SONOCO—new D-3 Duroweld Lap Rolls that offer a number of distinct advantages!

Because of their exceptionally long life, SONOCO Duroweld Lap Rolls are more economical—weigh less than steel tubing—and run cooler, too. These lap rolls can be easily reworked to remove nicks, and even after long service they do not develop sharp edges or fray on the ends.

SONOCO Duroweld Lap Rolls are chamfered inside at the ends to comply with Saco-Lowell Drawing No. 3DL331. Available in standard 9" and 10½" lengths with 4½" O. D.

For further information, consult your SONOCO sales-engineer, or write us direct.

saves money!

lighter than metal!

sonoco

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SONOCO PRODUCTS COMPANY

MAIN OFFICE — HARTSVILLE, S. C.

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DEPENDABLE SOURCE OF SUPPLY

Look
WHAT YOU CAN DO
Now WITH
LIQUID METERS!

1. Improve Quality Control

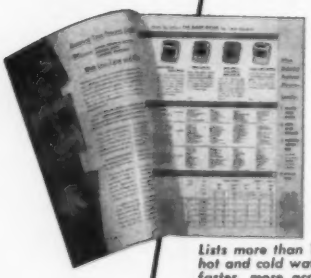
WITH METER-PRINTED BATCH TICKETS

This Neptune Print-O-Meter automatically stamps a ticket with the number of gallons or pounds of liquid delivered to your batch or process . . . a perfect, fool-proof record for closer control over quality, costs, and inventory. Coupled with Neptune Auto-Stop or Auto-Switch features, it offers you many new time and labor savings. The Print-O-Meter is available with accurate Neptune meters from 1 to 4 in. size, 5 gpm. to 500 gpm.

2. Control Pumps, Valves, etc.

WITH AUTO-SWITCH METERS

An explosion-proof electrical switch on this meter is actuated automatically when the desired quantity of liquid has been delivered. Use it to turn pumps on or off, to actuate solenoid valves, start agitators, or control other cycling operations. Available with or without the mechanically coupled Auto-Stop valve, which also is actuated by the tripping mechanism in the register. Auto-Switch available with Neptune meters from 1 to 4 in. size, 5 gpm. to 500 gpm.



Ask for Helpful Metering Bulletin 567ATI

Lists more than 150 liquids . . . chemicals, syrups, hot and cold water, oils, etc. . . . you can measure faster, more accurately, more automatically with Neptune disc-type liquid meters.

NEPTUNE METER COMPANY
19 West 50th Street, New York 20, N. Y.

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Shorts and Remnants

this device which they made in their own shop. **B. C. Trotter, Jr.,** Sou. Mgr. B. F. Perkins & Son, Inc., Charlotte, N. C., wants more data on inquiry from Lam Tong, Manila, Philippines, quoted in Feb. '56 S&R. Said inquiry was for prices on looms, printing, dyeing, finishing machines.

Laura Harel, West Warwick, R. I., wants needles for hand knitting machine. **Mrs. Geo. Reid,** Pres. Kingston [Ont. Can.] Hand-Loom Weavers, praises "Canadian Handicrafts" [Dec. '55] and wants to know author. That's our associate editor Leon Seidel.

Chinese Textile Engineer Wants Rare and Valuable Assets of U.S.A.

"I am a British-trained Chinese textile engineer who escaped to Hong Kong in 1949 just before the Chinese Communists came into power in the China Mainland. Since that time I had spent six years in this colony. . . . For a long time I had been longing to go to U.S.A. where the rare and valuable assets of freedom, security and peace still exist. But to obtain an entry visa for U.S.A. is extremely difficult. . . . One can obtain residency in U.S.A. on condition that he can find a job and a sponsor in U.S.A. who will, in the time of need, be responsible for the living expenses of his family. . . . Through your journal I know that you have wide connections in the textile business. I would be very grateful if you can be kind enough to make inquiries for me and tell me the firms and research institutes which may be interested in the employment of persons in my position. . . . "

TONG YUK SHU
24 Kimberly St. 3rd Floor
Kowloon, Hong Kong

► Mr. Tong, age 47, has excellent textile training as student and professor of textiles; also 9 years of spinning and weaving mill management. Further references upon request.

World Famous

"Please send me by return of post, your world-famous TEXTILE INDUSTRIES. . . . "

O. P. GAMARGO
Caixa Postal 11.137
Sao Paulo, Brazil.

► That's TI—world-famous; and that's all for S&R until May.

From Sliver to Yarn in One Operation... with the NEW

WHITIN MONARCH* SPINNING FRAME

Produces large yarn packages and completely eliminates roving

Actual mill installation of Whitin Monarch Spinning Frames

COARSE YARN PRODUCTION

The Whitin Monarch Spinning frame is a new type machine for producing very large packages of knotless coarse yarns, from .5's — 8's (cotton count), directly from sliver. The frame features a massive chassis, the famous Whitin two-apron roving drafting arrangement with top arm suspension and weighting, 7″ gauge, up to 5½″ rings, 11″traverse. Either floor or ceiling creels can be used.

It is ideally suited to highly economical production of quality tufted carpet and other coarse yarns from wools, synthetics and blends with fiber lengths from 3″ to 9″.

- **Yarn on bobbin — up to 3.5+ lbs.**
- **Draft range 4 — 50**
- **Accommodates sliver up to 100+gr./yd.**
- **Spindle speeds up to 5000+ r.p.m.**
- **Spinning type cradles**
- **Quik-Set Ratching for instantaneous change of roll setting**
- **Pulleys for four spindle drive**

* TRADE MARK

WHITIN MACHINE WORKS FOR 125 YEARS SERVICE TO THE TEXTILE INDUSTRY 1831-1956

Whitin

MACHINE WORKS

WHITINSVILLE • MASS.

CHARLOTTE, N. C. • ATLANTA, GA.
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You get

Totally NEW FABRIC EFFECTS

. . . plus Shrinkproofing

with the unique

RIGGS & LOMBARD COMPACTING MACHINE

Now you can command an extraordinary range of special effects — through new compacting methods which enhance the basic structure of goods in unprecedented fashion and *at the same time* shrinkproofs to commercial standards or better.

The R & L compacting machine, particularly designed to practice the new methods, excitingly transforms woven and non-woven fabrics and yarns of many types by mechanical methods — no chemicals! Nubby fabrics look nubbier, patterned weaves are accentuated with depth dimension added . . . and, after these mere beginnings, possibilities for further developments are practically unlimited. Yarns come up much loftier, for use in new and superior yarn-dyed fabrics.

This compacting machine handles a wide range of weights and types from very light to heavy fabrics such as carpeting, and a variety of yarn counts consisting of any fiber or blend. Reasonable in cost, and needing minimum floor space, it can be synchronized for in-line production at relatively high speeds. Replaces sponging process before tailoring on wool, worsted, blended fabrics — also achieves fine felting effects on worsteds and synthetic fabrics.

Riggs & Lombard collaborated in development of this machine for practicing the new compacting methods on woven and non-woven fabrics and yarns of many types. Now we are sole manufacturers and distributors of this machine in these fields, under licenses from the originators, Fabric Research Laboratories, Inc. Write for complete data. Find out how we helped engineer this new machine — and can engineer an installation that will assure *you* of immediately profitable new fabric effects.

RIGGS & LOMBARD, INC.

Foot of Suffolk Street, Lowell, Mass.

Agents: Paul A. Merriam Company, P. O. Box 86, Providence, R. I., Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill., Larry T. Nelson, 2824 S. W. Montgomery Drive, Portland, Ore., F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C., A. Harold Zayatti, Jr., P. O. Box 125, Riverton, N. J., H. E. Mott Co., Limited, Brantford, Ontario, Canada.

Samples For Free Testing

We can arrange for test run on yarns or fabrics to show shrink-proofing and extraordinary new effects — or to have a representative call to show profit potential in your operation. Just write or phone — no obligation.

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When quality counts . . .

it pays to go to a specialist

WHEN QUALITY DYE PERFORMANCE COUNTS, IT PAYS TO GO TO

ALTHOUSE

Leading Specialists in Dyes for Cotton — Rayon — Nylon and Other Synthetics and **blends**
For 40 years Althouse research has pioneered in raising textile industry standards of

COLORFASTNESS

This record of leadership assures highest quality performance when you specify these famous, exclusive Althouse dye specialties:

Superlitefasts
Azoanthrenes
Supernylites
Nylanthrenes
Nydyes
Sol-Aqua-Fast

ALTHOUSE
First name in Dyes for Colorfastness
ALTHOUSE CHEMICAL COMPANY, INC., READING, PA.
Subsidiary of Crompton & Knowles Loom Works

with BIJUR AUTOMATIC LUBRICATION

"INCREASED production, big cuts in repair costs and maintenance man-hours" – You'll hear this from mill men who have switched to Bijur automatic lubrication.

Poor lubrication causes most textile machinery breakdowns. Bijur Automatic Lubrication licks the problem of undue bearing wear. It supplies, automatically, the correct amount of filtered oil at pre-determined intervals. Unlike the fellow who handles the oil can, the Bijur System never forgets a bearing. There are no inaccessible bearings when you use the Bijur System.

Machines are lubricated while running which eliminates downtime for oiling and avoids injuries to workers. You save up to 50% on oil consumption. There's no excess oil to splatter and spoil materials and cause fire hazards.

With all these impressive benefits, it's time to discard hit and miss hand oiling. Let a Bijur field representative help you to incorporate the Bijur Automatic Lubrication System into your machines.

Colorful, new bulletin, "From Fibre to Fabric," shows the practical benefits that Bijur Automatic Lubrication offers to the Textile Industry. Write for your copy.

BIJUR
LUBRICATING CORPORATION
Rochelle Park, New Jersey
Pioneers in Automatic Lubrication

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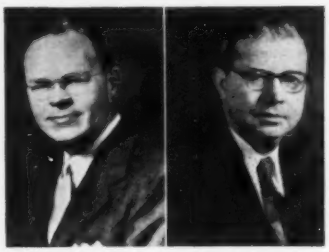
Personal NOTES
ABOUT MEN YOU KNOW

Rock Hill (S. C.) Printing & Finishing Co. recently promoted **J. J. Adams** from general superintendent to general manager of the finishing plant.

Lyndall F. Carter was recently named executive vice-president of The William Carter Co. New directors



L. F. Carter **W. E. McDaniels**

added to the board were **William L. Carter** and **David H. Finnigan.** Elected vice-presidents of the company were Mr. Finnigan; **William E. McDaniels,** production manager; and **H. Horace Otway,** general sales manager.

The American Association of Textile Chemists and Colorists announced that **Charles W. Dorn,** research director of J. C. Penney Co., Inc., succeeds **Leonard S. Little,** textile consultant, as chairman of its executive committee on research. Succeeding Mr. Dorn as chairman of the technical committee on research is **Charles A. Sylvester** of E. I. du Pont de Nemours & Co., Inc.

Frederick S. Haslam, who was formerly president of The Bell Co., Worcester, Mass., is now manager of the quality control department for finished goods at Amerotron Corp. **George Baumer,** who also came from The Bell Co., is his assistant. * * * The honorary degree of Doctor of Textiles was recently conferred on **Robert Huffines, Jr.,** president of Amerotron Corp., by the Philadelphia Textile Institute.

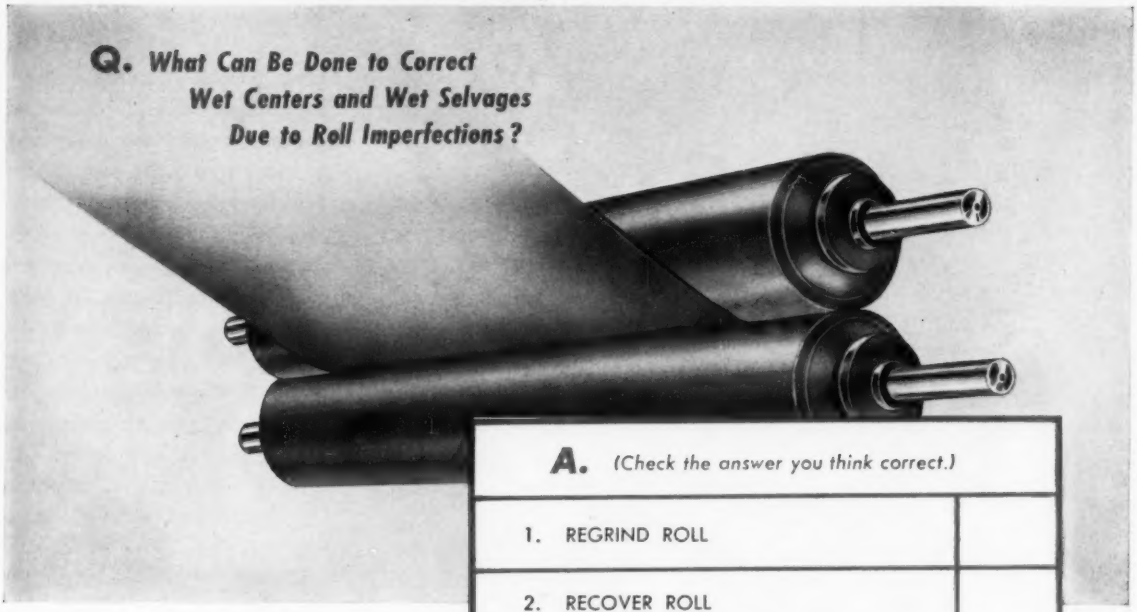
The following appointments at Aragon (Ga.) Mills resulted from recent personnel changes at units of United Merchants & Manufacturers, Inc.: **N. C. Davenport** is now general superintendent; **Floyd V. Aiken, Sr.,**

(Continued on page 36)

STOWE-WOODWARD Maintenance Tips

for better finishing at lower cost

Q. ***What Can Be Done to Correct Wet Centers and Wet Selvages Due to Roll Imperfections?***



A. *(Check the answer you think correct.)*	
1. REGRIND ROLL	
2. RECOVER ROLL	
3. CORRECT THE CROWN	

You'll find the correct answer in these Maintenance Tips

Any of the answers above may be correct, depending on the actual cause of the trouble. Wet centers and wet selvages due to uneven extraction in carbonizing or dyeing result in shaded goods. The trouble is almost always traced to uneven pressure across the face of the squeeze rolls. If the rolls are loaded equally on both ends and the trouble persists, the fault must lie in the roll itself and can usually be traced to one or two causes: uneven wear of the face of the roll, or grinding which does not correctly compensate for roll deflection under operating pressures.

Regrinding will remove minor irregularities of the roll face while those of a more serious nature may require recovering. If the problem stems from excessive roll deflection, the proper crown must be accurately determined.

Your Stowe-Woodward Sales Engineer will be happy to assist and advise if you have problems involving rubber covered rolls in any textile application. His experience in the care, selection and performance of rubber covered rolls is that of an expert. Call him before you place your next order.

"RUBBER ROLLS with a REPUTATION"

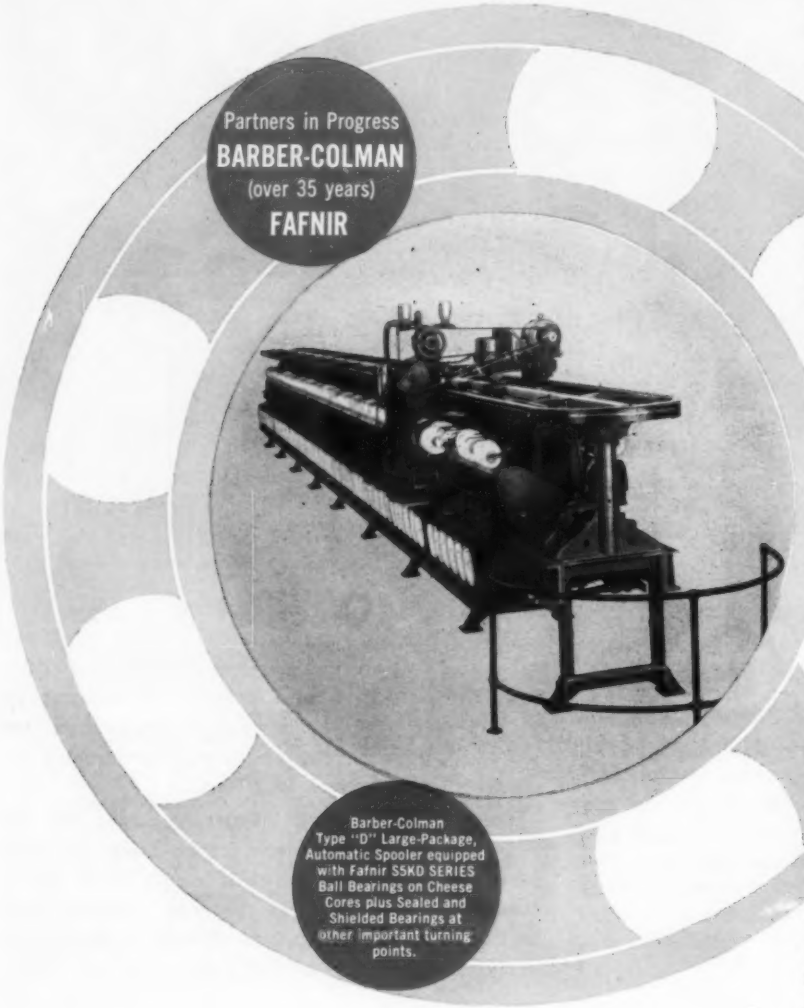
S-W INC.

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN • NEWTON 64, MASS. • GRIFFIN, GEORGIA

Simple solution to a knotty problem in large-package spooling



Barber-Colman Type "D" Large-Package, Automatic Spooler equipped with Fafnir S5KD SERIES Ball Bearings on Cheese Cores plus Sealed and Shielded Bearings at other important turning points.

Large package spooling, being a high-speed and high-production process, requires absolute free-running spindles. To meet this requirement, Barber-Colman worked with Fafnir Bearing Specialists. By shifting to precision ball bearings at certain key turning points, particularly on cheese cores and the spooler traveler, the problem was solved. These important advantages were provided: (1) friction freedom; (2) precise concentricity . . . resulting in true running spools; (3) elimination of vibration; (4) protection against lubrication leaks; (5) reduction of lubrication requirements. The first three advantages resulted in less ends down, consequently increased overall productivity.

For over 35 years, Fafnir has been a Barber-Colman supplier — providing ball bearings for original equipment and replacement. Good bearings aren't the sole reason for this relationship of long standing. Equally important is the Fafnir "attitude and aptitude" — a way of looking at bearing problems from the designer's viewpoint, an aptitude for supplying the precise bearing to fit the need. Maybe this combination can help you solve a problem. Consult The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR S SERIES
(Extra Small)
BALL BEARINGS

FAFNIR MECHANI-SEAL
BALL BEARING
(Slinger Seal Type —
friction free)

FAFNIR PLYA-SEAL
BALL BEARING
(Contact Seal Type —
pre-lubricated for
long life)

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

Black as the

with all-around fastness, too!

NATIONAL CARBANTHRENE® PRINTING BLACK BBD

DOUBLE PASTE

Now you can print deep blacks that resist rubbing *and* have a host of other desirable fastness properties, too.

National Carbanthrene Printing Black BBD Double Paste produces jet black shades on cotton or rayon. These shades have very good fastness to rubbing, maximum light fastness and very-good-to-excellent fastness to wet processing. It is highly recommended for prints that must combine exceptional resistance to light laundering *and* crocking.

National Carbanthrene Printing Black BBD Double Paste is an anthraquinone vat with an exceptional combination of properties, as the ratings in our shade card (Bulletin #433) will confirm. So, for the next run that calls for "a jet black that doesn't crock", try National Carbanthrene Printing Black BBD Double Paste!

NATIONAL®

vat dyes

LIGHT FAST... WASH FAST... FOR THE-LIFE-OF-THE-FABRIC

NATIONAL ANILINE DIVISION ALLIED CHEMICAL & DYE CORPORATION

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Allied Chemical

NEW TWISTS in stretch yarn processing

Build profits in today's hottest market— take advantage of Universal's complete service

Universal makes the special machines you need for fast, low-cost production of all the popular new bulk and stretch yarns.

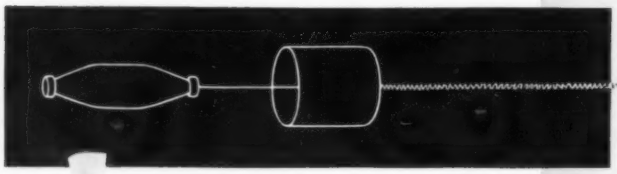
Also, you get expert technical and marketing aid from . . .

Universal's Yarn Evaluation Department

This new Universal Department has been established to: set up standards for processing and testing stretch yarns; provide mills with samples; suggest test procedures and appraise samples from mills; and investigate market potentials for new products.

Universal offers you practical, simplified financing, too — through its famous Leesona Pay-As-You-Profit Plans for long-term purchase or lease of new machines while conserving your capital.

At right are shown just a few of the variety of garments that call for new "miracle" yarns produced on Leesona Stretch Yarn Machines. For full particulars on these machines and on Universal's stretch yarn service, see your Universal representative or write direct.



23.5.27

LEESONA

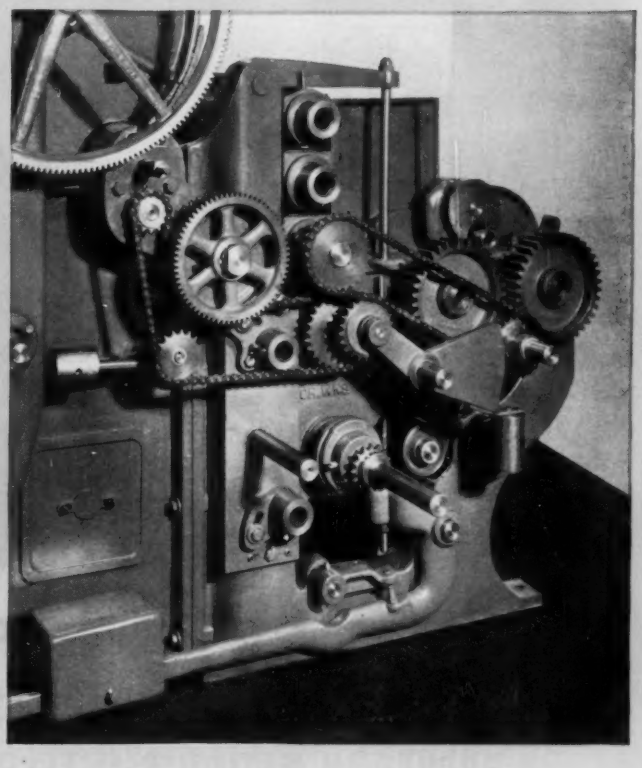
UNIVERSAL WINDING COMPANY

P. O. BOX 1608, PROVIDENCE 1, R. I.

Sales Offices:
Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles
Winding and Twisting Machinery for Natural and Synthetic Yarns

Need New Pickers?

. . . then, think of what you get in ALDRICH PICKERS!



• The chain drive to the draw-rolls and screens permits better draft control between the screens and the draw-rolls and the draw-rolls and the calender rolls. The old gearing was rather inflexible. The new chain drive is very flexible, and can give much smaller increments of change than were possible with the old drive.

The chain drive to the fluted calender rolls is also highly flexible and permits very accurate maintenance of the desired draft between the vertical rolls and the fluted rolls so that any slack can be kept out of the lap, and firmer more compact laps wound on the lap pin.

This chain drive to the fluted rolls stops those rolls while the picker is being doffed. This prevents injury to the lap by unnecessarily turning it while no cotton is being added. The lap is broken on top of the back fluted calender roll, and remains threaded up under the press roll. This eliminates the heavy place in the lap usually found next to the pin, and it also speeds up the doffing time, because the lap is only two inches from the pin when the picker is started.

AldricH MachinE WorkS
Greenwood, South Carolina

OUTSTANDING SUPERIORITY OF SOUTHERN STATES COMB BOXES PROVED IN NATION'S MILLS

More than 30,000 Southern States Comb Boxes have been placed in service during the past 7 years—equal to 35% of all the nation's cotton cards. Many mills have changed over 100%.

This overwhelming acceptance proves conclusively that mills can easily justify the small investment. Card-room overseers quickly recognize the savings that result from their use: no oiling, cleaning or maintenance for the life of the unit; steady, even strokes to drive the comb with perfection; elimination of hot-running, leaky, rattling old-style boxes and their headaches.

Southern States Comb Boxes are furnished complete with an adjuster base for mounting on any make of cotton card. Bases are double tapped to permit rapid mounting on either right or left hand cards. Installation is quick and easy.

Let us show you with facts and figures how it has paid hundreds of mills to install Southern States ball-bearing, sealed-for-life, Comb Boxes; prove how much they will save you in one year. Write direct for a representative to call at your convenience.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 30)

general overseer of spinning; **Albert E. Bowman,** first shift overseer of spinning; **W. A. Pridmore,** overseer of weaving and slashing; and **D. Bruton Fitzgerald,** general overseer of the preparation department.

At Avondale Mills, Sylacauga, Ala., **J. E. Mitchell,** director of the quality control department, and **W. J. McKemie,** head of the cost and standards department, have been elected assistant secretaries.

As the result of a recent election at Cone Mills Corporation, **Benjamin Cone** was named chairman of the board, and **Ceasar Cone,** company treasurer, was elevated to the presidency. Both men fill offices previously held by their brother, the late

Benjamin Cone

Ceaser Cone

Herman Cone, whose vacancy on the board of directors is now filled by his son, **Herman Cone, Jr.** * * * At the Granite Plant, Haw River, N. C., **J. M. Williamson** has been appointed day superintendent; **W. H. Ritter,** night superintendent; **M. B. Boyce,** overseer of dyeing; and **J. C. Wellons, Jr.,** assistant overseer of dyeing, second shift.

Now a member of the board of directors of the National Association of Manufacturers is **Nathan M. Ayers,** president of Triangle Hosiery Co. and Highland Cotton Mills, High Point, N. C.

Chairman of the Blue Ridge Safety Council is **H. L. Parker** of Marion (N. C.) Manufacturing Co., who was elected to succeed **L. B. McAbee** of Firestone Textiles, Inc. Vice-chairman is **M. G. Allen** of Alexander Mill, Forest City, N. C. Secretary and treasurer is **W. G. Hardin** of Rex Mills, Inc., Gastonia, N. C.

Roy E. Brasil has joined Riegel Textile Corp.'s Trion (Ga.) Division

as overseer of weaving. Mr. Brasil came to Riegel from Fulton Bag & Cotton Mills in Atlanta, Ga., where he was superintendent of Mill No. 1.

Harry B. Goldsmith, director and treasurer of Hess, Goldsmith & Co., 1400 Broadway, New York, N. Y., has

Mr. Goldsmith

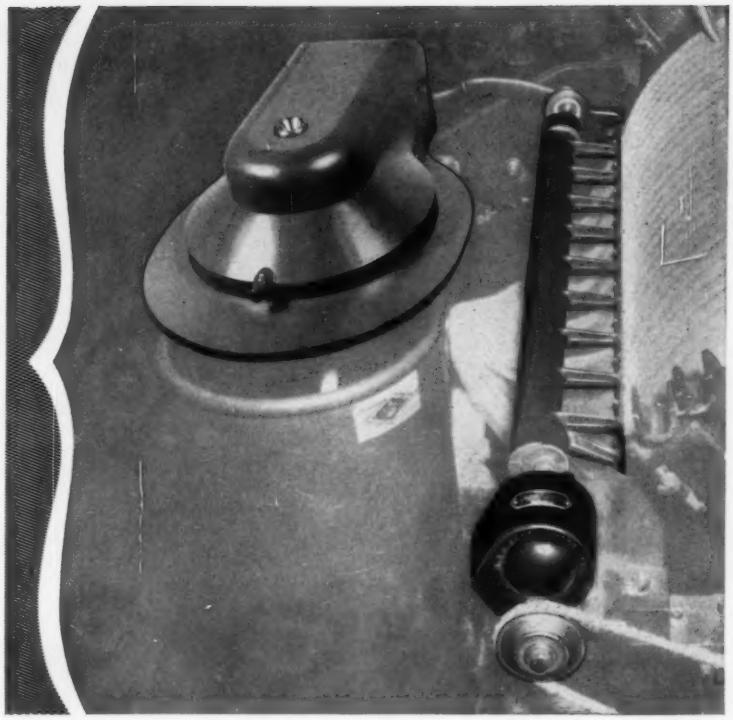
retired after 59 years of service. Mr. Goldsmith, who joined the company in 1896, has been treasurer since 1922 when the firm was incorporated.

Sagamore Mfg. Co., Fall River, Mass., elected **Lawton S. Brayton** as treasurer to succeed the late James A. Burke, Jr. Mr. Brayton, who has been with Sagamore since 1932, is president of the Northern Textile Association and the National Association of Cotton Manufacturers.

A. B. Brook, formerly assistant manager of Linen Thread Co.'s Marshall Mills in Kearny, N. J., is now manager of its Barbour Mill in Paterson, N. J., succeeding G. D. Daisy.

M. W. Brunson, who was previously with J. P. Stevens & Co., is now assistant superintendent of American Thread Co.'s plant at Dalton, Ga.

E. P. Cave, chairman of the board of Ely & Walker, has been elected a director of Burlington Industries. Now vice-president in charge of industrial engineering is **James King,** who came to Burlington from American Associated Consultants, Inc., and moved from Atlanta, Ga., to the Greensboro, N. C., headquarters. * * * **William S. Coulter,** one of the founders of Burlington Industries in 1923, has resigned from the board of directors. Upon his retirement, he was honored with an informal dinner, where he received a silver tray, a diamond-studded quarter-century club pin, and an oil portrait of himself. A resolution was adopted to affirm the board's admiration and appreciation of Mr. Coulter's "helpful guidance and counsel. . . . ". * * * **C. Lowrey Stafford, Jr.,** has been



SOUTHERN STATES NOW OFFERS A FOUR-WAY COMBINATION TO BETTER CARDING OPERATIONS

No mill need put up with hot, leaky, rattling comb boxes, hard-to-align comb blades with distorted fingers, out-dated off end bearings, or antiquated coilers with small cans. Not when Southern States has a four-way answer to all of those problems and at prices every mill can afford!

One. Ball-bearing, sealed-for-life Comb Boxes that operate smoothly, quietly and never run hot.

Two. New Aluminum Comb Stock with solid blade support. Light in weight, yet more rugged than conventional steel. End journals of steel simplify balancing and assure long life. True alignment is easy. No distortion between fingers.

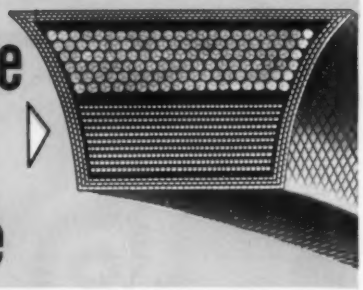
Three. Vibrationless Off End Stand. Pre-lubricated sealed bearing eliminates oiling. Mounts either right or left hand.

Four. Universal Coiler Head for 14- or 15-inch cans for use on any make coiler. Simplified design. Cut tooth gears and oilite bearings throughout.

These Southern States units will bring vastly improved carding operations to your mill and cut operating costs. Facts and figures, based on case histories, will prove how they pay for themselves in record-short time. Let our representative give you the details, or write us direct.

SS **SOUTHERN STATES**
EQUIPMENT CORP.
HAMPTON, GEORGIA

Why this curve lengthens V-belt life



THE CONCAVE SIDES (U.S. Patent 1813698) of every Gates V-Belt are a precisely engineered curve. This curve greatly lengthens V-belt life for this interesting reason:

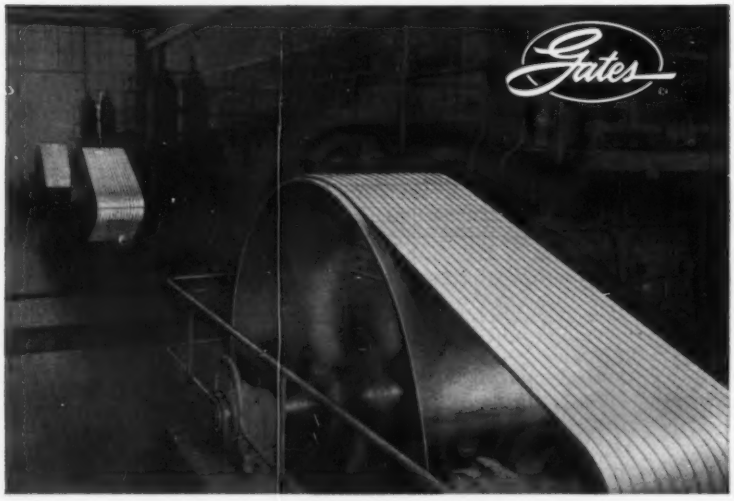
When you bend a Gates V-Belt, just as it is bent around a sheave, the concave sides (Fig. 1) become straight. Therefore, the belt makes full contact with the sheave, gripping the sides evenly (Fig. 1-A) and wear is distributed uniformly across the sidewalls of the belt. Naturally, uniform wear lengthens belt life; saves on replacement costs and cuts down-time.

Now see what happens when you bend a straight-sided belt. (Fig. 2) Just feel the sidewalls *bulge out* at the bend. The bulge causes *uneven* contact with the pulley, as in Fig. 2-A. And uneven contact causes excessive wear at points shown by arrows; belt life is shortened.

Cut costs by getting longer wear from your V-belt drives. Specify Gates Vulco Rope—the V-belt with concave sides. Your nearby Gates distributor will supply your needs promptly. The Gates Rubber Co.—*World's Largest Maker of V-belts.*

There are Gates Engineering Offices and Distributor Stocks in all industrial centers of the United States and Canada, and in 70 other countries throughout the world.

TPA-74



Gates Vulco Rope Drives

Personal NOTES ABOUT MEN YOU KNOW

named president of National Mallinson Fabrics, a member organization of Burlington Industries. * * * Replacing **John T. Lathem** as superintendent of Burlington's Phenix plant in Kings Mountain, N. C., is **James Rotan,** who was formerly at the Mays plant.

Callaway Mills Co. recently promoted **Wren Cardwell** to production supervisor and overseer of screen printing at the Unity plant. Mr. Cardwell previously was second hand in the screen printing and production department at Unity.

Walter E. Floyd became superintendent of Goodyear Tire & Rubber Co.'s textile mills at Cartersville, Ga., following the retirement of **Guy I. Parmenter** who had been with the

Mr. Parmenter

Mr. Floyd

company 30 years. **H. A. McKew** replaced Mr. Floyd as assistant superintendent. Elevated to the new position of efficiency engineer was **Harry W. Chappell, Jr.,** formerly night overseer of the twisting department.

Richard T. Chatham, Jr., and **Haddon S. Kirk, Jr.,** directors of Chatham Manufacturing Co., Elkin, N. C., were recently made vice-presidents. * * * **H. H. Barker** is now assistant of quality control, and **John Francis** is superintendent of the "C" shift.

Succeeding the late A. L. Brown as president of China Grove (N. C.) Cotton Mills Co. is **Carl J. Beaver,** whose former position of secretary-treasurer is now filled by **John H. Rutledge, Jr.,** vice-president.

Joseph C. Cobb, who was with Pacific Mills for 10 years as vice-president in charge of synthetic and cotton manufacturing, is now connected with Reeves Brothers, Inc.

(Continued on page 241)

YOU DO THE FIGURING...

ARE YOU:

- ☐ **President?**
- ☐ **General Manager?**
- ☐ **Superintendent?**
- ☐ **Cardroom Overseer?**
- ☐ **Maintenance Superintendent?**
- ☐ **Section Foreman?**

THE *Long* PNEUMATIC LAP CONTROL SYSTEM

has been proven by executives in many cost-conscious textile mills. These plants have installed the Long System and discovered, to their profit, that it definitely *does* save on: Labor, Maintenance, Production, Quality Control. Ask your purchasing agent today about the cost of the Long System.

Of especial interest to profit-aware mills: 85# to 110# (and larger) laps now possible and *practical* with the Long Pneumatic Lap Control System. Write for complete information and illustrated brochure.

LOOK WHAT JUST FIVE OF THE MANY MILLS HAVE REPORTED:

MILL "A"* PRODUCTION . . . $20,000 estimated savings per year. LABOR . . . 16,000 manhours per year estimated saving.

MILL "B"* MAINTENANCE . . . Estimated costs drop from $20 to $1.50 per month per picker.

MILL "C"* Long System revealed hitherto undiscovered mechanical flaws. Superintendent says improved quality and savings on maintenance will more than pay for entire cost of system.

MILL "D"* PRODUCTION . . . $10,000 estimated saving per year.

MILL "E"* MAINTENANCE . . . Savings on parts would more than pay for system in two years.

*Name on request

Long **PNEUMATIC LAP CONTROL SYSTEM**

World-wide exclusive distribution by

LIVINGSTON & HAVEN, INC. P. O. Box 808, Dept. T, Charleston, S. C. TELEPHONE 4-6321

REPRESENTATIVES

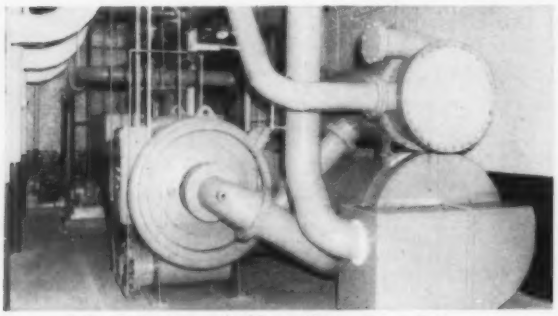
Cox Foundry & Machine Co.
Box 153, Sta. A, Atlanta, Ga.
Telephone PLaza 3-5191

W. A. Wallace
22 Augusta Court, Greenville, S. C.
Telephone 2-3979

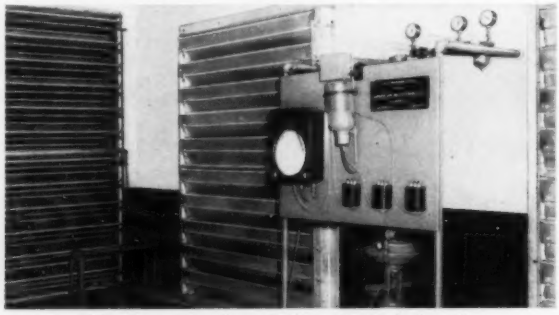
EXPORT SALES:

H. G. Ruescher & Sons, Inc.
25 Beaver St., New York 4, N. Y.
Telephone BOwling Green 9-1883

Card room at Highland Park Mfg. Co., Mill No. 1, Charlotte, N. C. Ductwork and zone control atomizers are part of Amco's central station system, designed by J. E. Sirrine Company for the entire mill.



Refrigeration is supplied by a 350-ton Trane Centravac unit located in the basement.



The Amco control panel alongside the fresh and recirculated air louvers.

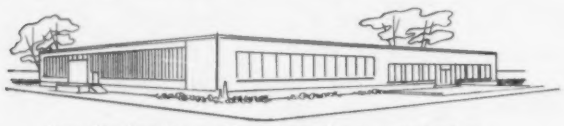
This ECONOMICAL split-system by Amco

provides thoroughly conditioned air, with maximum operating efficiency

Whether your need is for one room, or an entire mill, Amco offers air conditioning to meet your requirements. Amco designs and installs all types of systems — humidification alone; or in combination with cooling, such as in the ductless evaporating cooling system; unit dry-duct systems; or central station systems.

The central station system Amco recently completed at Highland Park Mill is a good case in point. In order to effect savings, it was felt advisable not to install the excess air capacity found in conventional design. Instead, Amco installed a "hand tailored" split system using a smaller central station unit augmented by room atomizers, thus reducing both initial cost and operating cost. This system provides complete control with even greater flexibility of operation. Savings have been substantial.

Amco engineers will be glad to work out a solution to any problem you may have. Next time call on Amco for reliable advice. There is absolutely no obligation.



New Cleveland-Rowan Plant of the American Moistening Company. This modern plant is located at Cleveland, N. C., for the fabrication of duct work and sheet metal products.

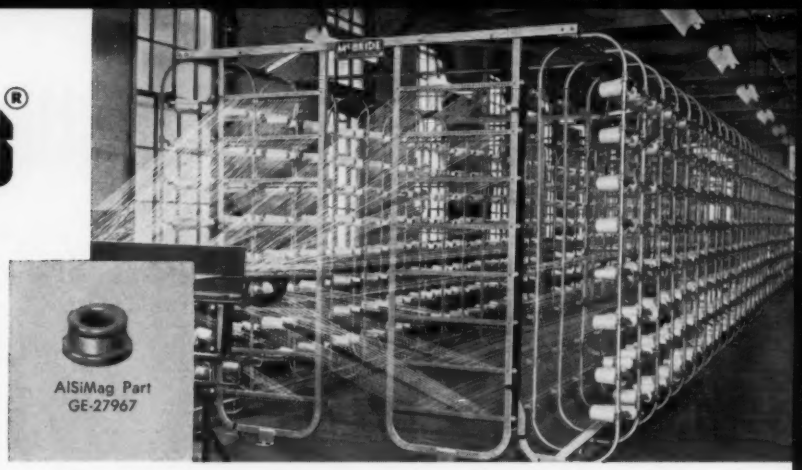
AMCO

AIR CONDITIONING SYSTEMS since 1888

AMERICAN MOISTENING COMPANY, PROVIDENCE R. I. • ATLANTA, GA. • BOSTON, MASS. • CAMDEN, N. J. • CLEVELAND, N. C.

ALSIMAG®

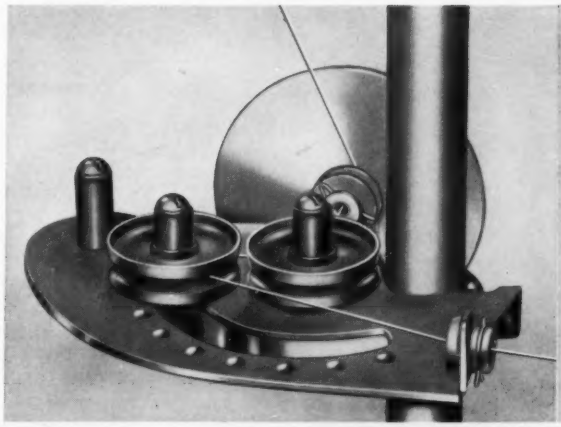
GUIDES ARE *Standard equipment* ON McBRIDE OVER-END WARPING CREELS



AlSiMag Part GE-27967

● To insure optimum performance, more and more leading textile manufacturers such as Edward J. McBride Co. have adopted AlSiMag guides as standard equipment. There are many reasons:

● AlSiMag guides speed processing, improve quality, reduce down-time. They are uniform both physically and dimensionally. AlSiMag guides are homogenous and extremely hard. This means extra long life, even when running abrasive yarns at high speeds—lower cost per pound of processed yarn. The controlled finishes and perfected designs of AlSiMag guides result in far better yarn control. Conductive AlSiMag 193 designs help solve static problems.



AlSiMag guides GE-34008 (top) and GU-8146-D are standard equipment on the McBride Tension Master, which does such an efficient job in evening warp tensions.

Pictured at left is one of the McBride Instant Stops (supersensitive model for extra fine yarns). AlSiMag guides GE-23138 (above left) and GE-25532 are standard equipment. For intermediate weight yarns, drop wires on standard model are equipped with GE-27967 eyelets to permit the easy passage of knots or uneven yarn.

But, why not let your own experience demonstrate the many advantages of AlSiMag guides? You are welcome to make a test: Free samples of standard designs will be sent to you on request; custom-made samples at reasonable cost. Write us today!

55TH YEAR OF CERAMIC LEADERSHIP

AMERICAN LAVA CORPORATION

CHATTANOOGA 5, TENNESSEE
A Subsidiary of
Minnesota Mining and Manufacturing Company

SALES ENGINEERS: NORTHEAST: J. S. Gosnell, 671 Broad St., Newark, N. J., Mitchell 2-8159. NORTH CENTRAL: Minnesota Mining & Mfg. Co., 367 Grove St., St. Paul 1, Minn., Cedar 3071. NORTHWEST: Minnesota Mining & Mfg. Co., 320 Shaw Rd., S. San Francisco 10, Calif., Plaza 6-0800. SOU. CALIF.: W. L. Thompson, 5603 N. Huntington Dr., Los Angeles 32, Capitol 1-9114. SOUTH CENTRAL: J. A. Green, 137 Parkhouse, Dallas 7, Tex., Riverside 3266. SOUTH: J. E. Spearman, American Lava Corp., Chattanooga 5, Tenn., 5-3411. SOUTHEAST: James W. Crisp, Calhoun Towers, Greenville, S. Car., ALL OTHER AREAS: J. B. Shacklett, American Lava Corp., Chattanooga 5, Tenn., 5-3411. REPRESENTATIVES: CANADA: Ian M. Haldane & Co., P. O. Box 54, London, Ont. CONTINENTAL EUROPE: P. C. Huguenin Luzern, Garbergasse 6, Luzern, Switzerland. JAPAN & SOUTH KOREA: The American Trading Co. (Japan) Ltd., SKF Bldg., No. 1, Shiba Park, 7-Gochi, Minato-Ku, Tokyo, Jap. PERU: William Crosby & Sons S. A., Atangaro 130, P. O. Box 2326, Lima. SOUTH AFRICA: White, Child & Beney (South Africa) Pty. Ltd., P. O. Box 632, Electron House, Acutt St., Durban. ALL OTHER EXPORT: Minnesota Mining & Mfg. Co., International Div., 99 Park Ave., N.Y., N.Y.

SQUEEZE ROLL PRESSURE PROBLEMS?

Here's the field-tested Taylor answer

1 **Easy-to-read dial** gives direct pressure readings of actual roll pressure. Also available with remote indication or record for panel use.

2 **One knob** adjusts actual roll pressure.

3 **Unit** is mounted directly over the journal. Pressure is applied directly to the roll.

4 **Spring automatically** raises roll when supply pressure is shut off.

5 **Volumetric element** — a Taylor development—measures pressure being applied directly to squeeze roll.

The Taylor Squeeze Roll Pressure Controller tells you just how much pressure you have on each end of your size box squeeze roll. It measures and permits manual control of actual *pounds of pressure* applied *directly* to the roll . . . unaffected by friction or leaks in air cylinder.

One unit is installed on each end of the roll. Each can apply up to 1000 pounds pressure, for a total pressure of 2000 pounds plus the weight of the roll.

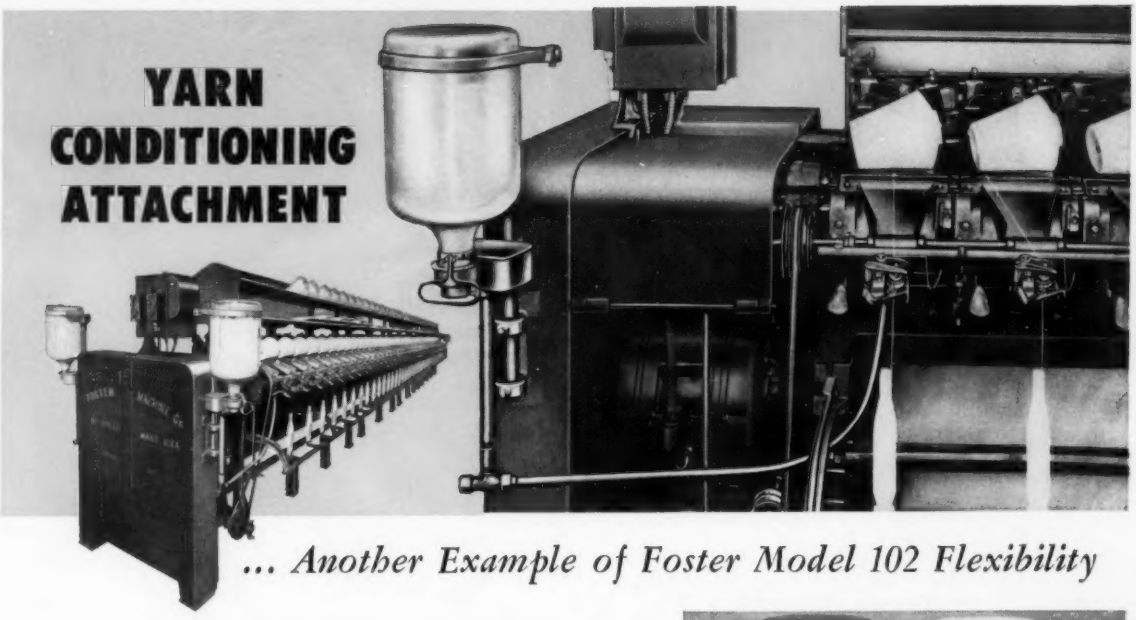
For Calender Rolls, Dye Padder Rolls, and other higher pressure applications, a similar unit is available with a 2500 pound capacity . . . to deliver up to 5000 pounds pressure plus the weight of the roll, when used in pairs.

Taylor Squeeze Roll Pressure Control has been thoroughly field tested in a number of textile mills. It is a logical outgrowth of Taylor's development of the volumetric measuring principle for difficult tension and pressure measuring jobs. Units are available for pressures up to 200,000 pounds and tensions from 0 to 30,000 pounds.

For full details on Taylor's Squeeze Roll Pressure Control, or for help on any similar load control problem, call your Taylor Field Engineer or write for **Bulletin 98232.** Taylor Instrument Companies, Rochester, N.Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

YARN CONDITIONING ATTACHMENT



... *Another Example of Foster Model 102 Flexibility*

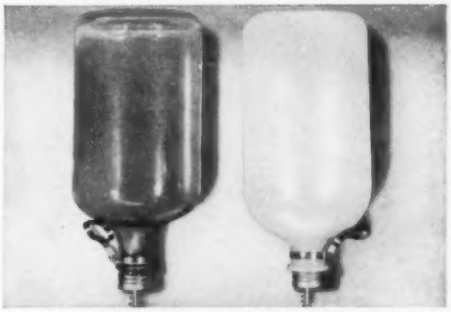
This flexibility feature of the Foster Model 102 Winder is particularly important, because some types of winders can not use yarn conditioning attachments.

This attachment lubricates and softens yarns with a wax or oil emulsion. It restores normal moisture content and gives the yarn a soft hand, so that it will run well in the knitting machine and reduce needle breakage.

Readily applied to existing machines, or supplied with new machines, it is particularly useful when winding mercerized yarn or package dyed yarn. It can condition any type of yarn at any speed within the capacity of the machine — up to 750 y.p.m. It also permits numerous variations in percentage of moisture pickup.

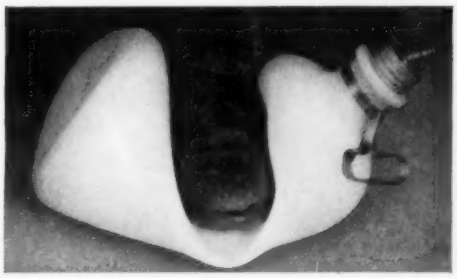
Other flexibility features of the Foster Model 102 are: — 1. Handles any type or count of staple yarn except the coarsest. 2. Produces any cone taper commonly used and any angle of wind from 9° to 18°, with simple and inexpensive changes. 3. Can be equipped to wind knitting cones, warping cones, parallel tubes, dye packages or short traverse cheeses. 4. Winds dyed yarn, even when damp. 5. Can be built to wind up to 7″ traverse.

Who knows what you'll be winding a few years from now? Be prepared for the unforseen insofar as possible. Get all the facts about the Foster Model 102. Send for Bulletin A-95 now.



GLASS PLASTIC

PLASTIC BOTTLES now available for Foster Yarn Conditioning Attachment. Weigh only 2 lbs. ½ oz. Glass bottle weighs 6 lbs. 15½ oz.



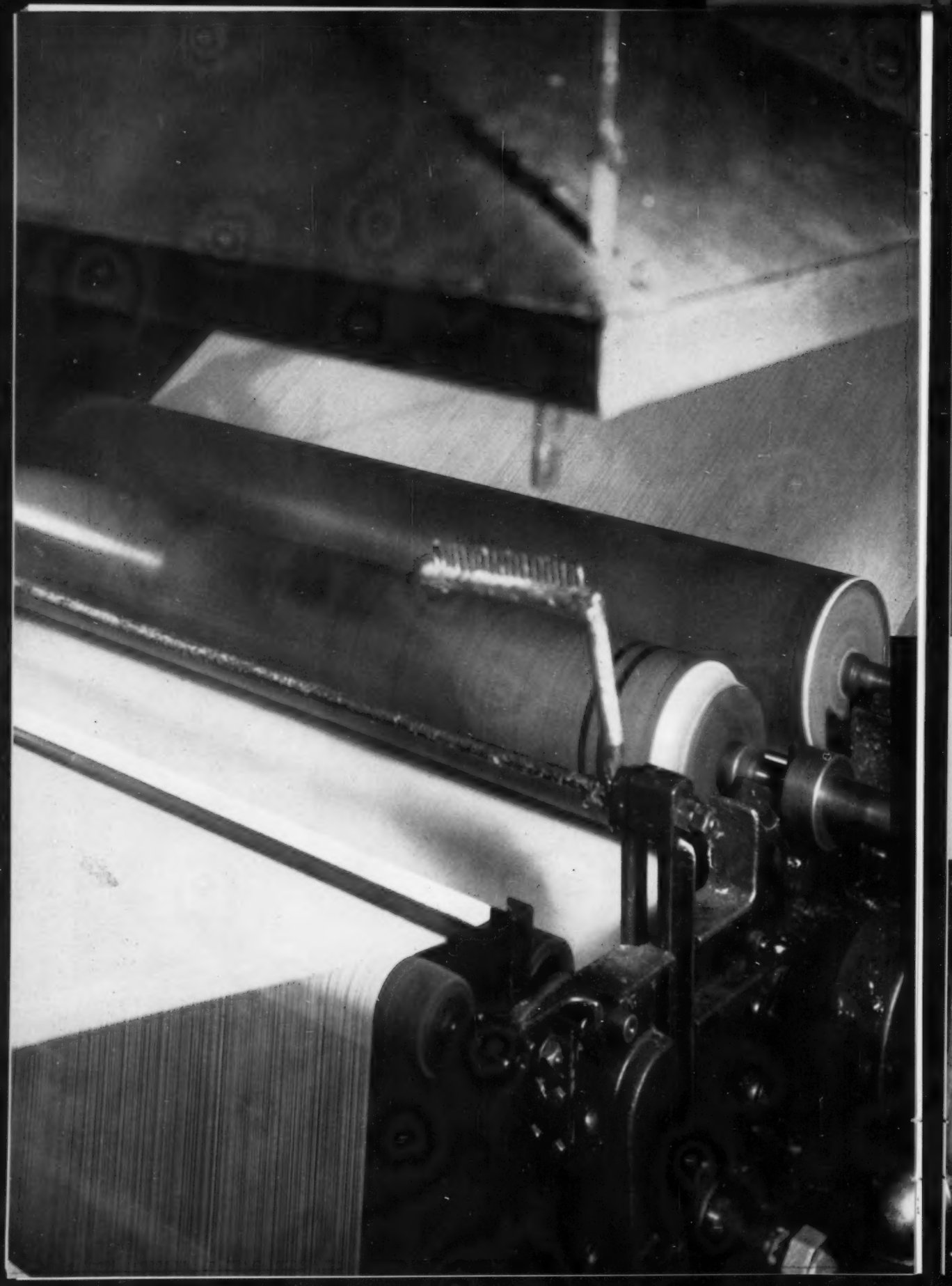
UNBREAKABLE. Does not shatter, if dropped. Lasts indefinitely; eliminates accidents; pays for itself many times over.

FOSTER MACHINE COMPANY

Westfield, Massachusetts, U. S. A.
Southern Office — Johnston Bldg., Charlotte, N. C.

A Winder for Every Textile Purpose

Canadian Representative — Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que. and 35-37 King St., Toronto, Ont.
European Representative — Muschamp Textile Machinery Limited, Keb Lane Bardsley, Oldham, England

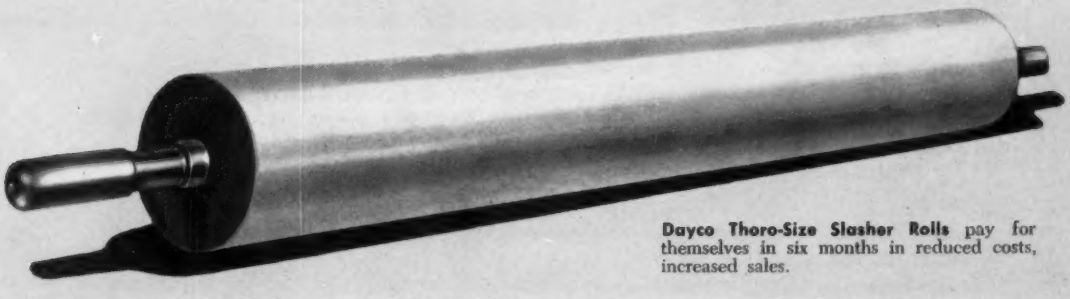


Sales up... sizing costs down

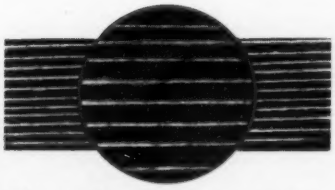
WITH DAYCO SLASHER ROLLS

You can produce finer, more attractive, more saleable cloth . . . and cut sizing costs with Dayco's new Thoro-Size Slasher Rolls. The result of 11 years intensive research, their remarkably resilient surface accurately controls sizing within desired limits. Result: More uniform yarn.

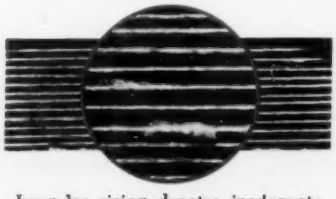
Seamless, Daycos cannot damage fibers, streak, spot or leave roll marks . . . need absolutely no warm-up or soaking . . . require no covering . . . remain in position when changing sets—all features which cut slashing costs. Get immediate improvement in the quality of your sized yarn and at the same time cut slashing costs. Install Dayco Thoro-Size Slasher Rolls in your mill.



Dayco Thoro-Size Slasher Rolls pay for themselves in six months in reduced costs, increased sales.



Clean, uniform sizing proves superior performance of Dayco slasher rolls



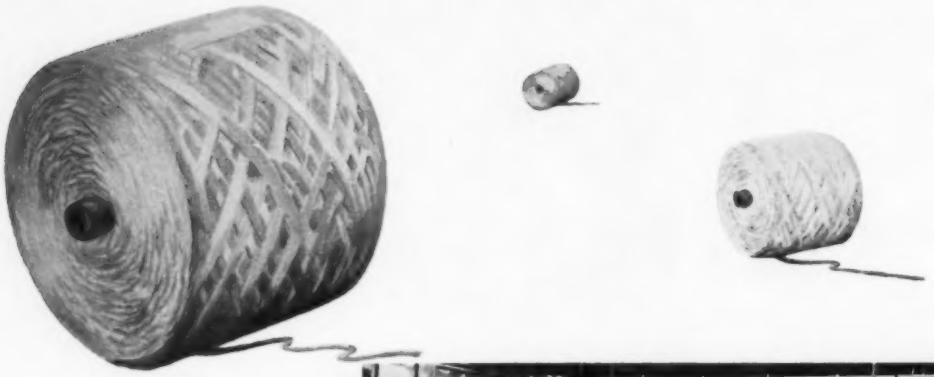
Irregular sizing denotes inadequate control of ordinary slasher rolls

For full information on Dayco Thoro-Size Slasher Rolls write Dayton Rubber Co., Textile Div., 401 National Bank Bldg., Greenville, S. C.

Dayton Rubber 51 YEARS OF PROGRESS

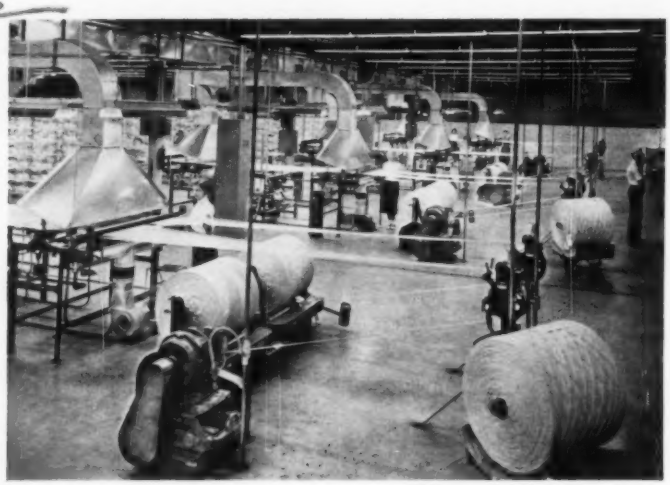
Dayco and Dayton Thorobred Textile Products for Better Spinning and Weaving

© D. R. 1956



Why

Coats & Clark, Inc. Selected Cocker Gassing Equipment



Cocker's engineering ability was the first consideration when Coats & Clark, Inc. began planning its modern mill in Toccoa, Georgia. Cocker's experience with all phases of warp preparation made them the ideal choice to work out the many problems involved.

Cocker's complete production facilities — from foundry through its most modern stainless steel plant — assured a perfectly integrated turnkey job. Everything shown in this picture, plus 48 of the most modern coilers, is Cocker produced and installed.

Shown are Double Head Gassing Machines, running from 760 end horizontal magazine cone creels, built for jumbo cones. Each machine produces 600 lbs. per doff. Gassing speed about 150 yards per minute, with adjustable drive to run up to 450 yds. per minute without gassing.

For the most modern warp gassing equipment — and for *any* warp preparatory machinery — always call on Cocker.

New England and Canadian Representatives:

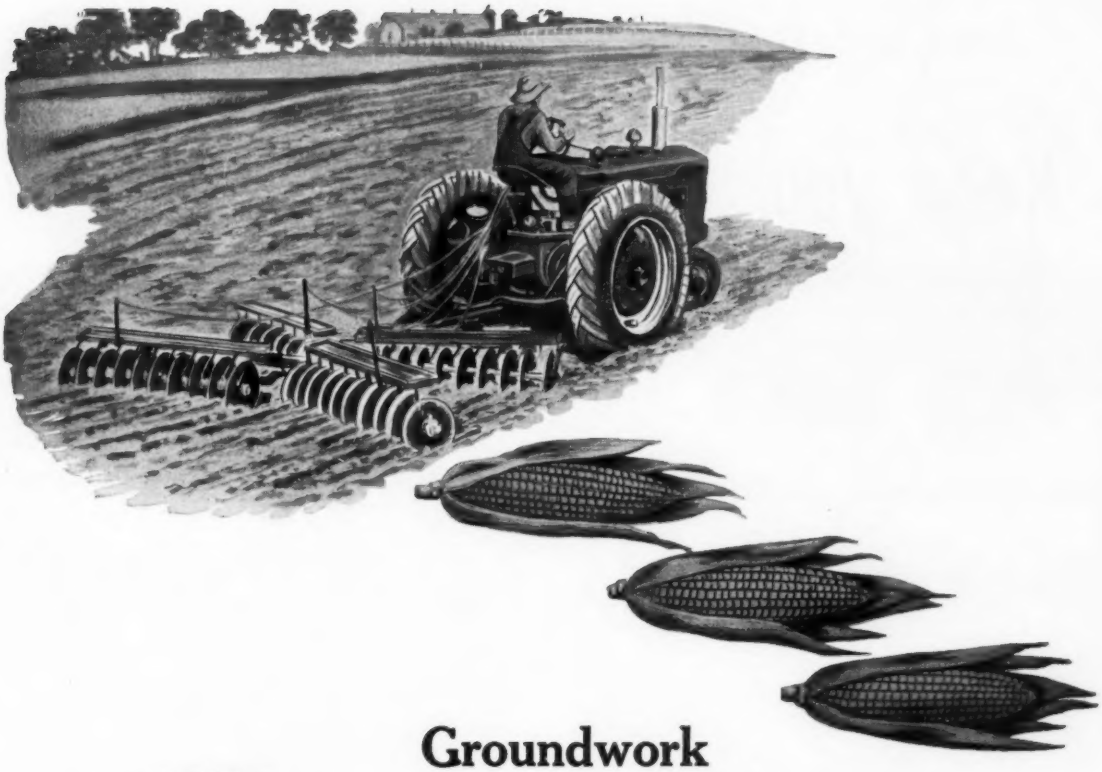
J. S. Fallow & Co., 279 Union St., New Bedford, Mass. • 1215 Greene Ave., Montreal 6, Canada

Visit Cocker's Booths No. 830 and 831, Southern Textile Exhibition.

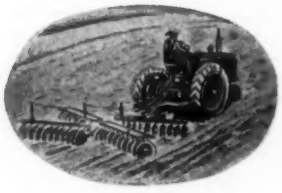
THE LEADER COCKER AROUND THE WORLD

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT



Groundwork for a Fine Finish



ANYONE CAN PLANT A SEED—but then what?

... for it takes more than good planning to "finish" a field of corn... to bring it to ripe perfection. It takes skill and preparation. Takes plowing, harrowing, fertilizing, cultivating... and good weather.

And it takes more than the same good planning when you have a difficult lot to dye. But with good planning, skill, and *all-purpose Diastafor* de-sizing agent to do the groundwork, your "harvest" will be a trouble-free, blemish-free finish every time!

For Diastafor de-sizing agent, with its unusually wide working range of temperatures and pH, is sure to satisfy your every enzyme de-sizing need. The *"spadework" is done* when you use it, no matter under what conditions you may be working—with cottons, rayons or mixed goods, or with variables in water or sizing formulas.

For easy, fast, economical de-sizing in your own mill, one of Diastafor's three types—L, L_6 or D—is sure to meet your requirements. Remember, Diastafor first "broke ground" more than 44 years ago—and its fine reputation has been growing ever since.

If you wish further information, please write. Remember... our sales and technical staffs are here to serve you.
Standard Brands Incorporated, *Diastafor Department*,
595 Madison Avenue, New York 22, N. Y.

DIASTAFOR

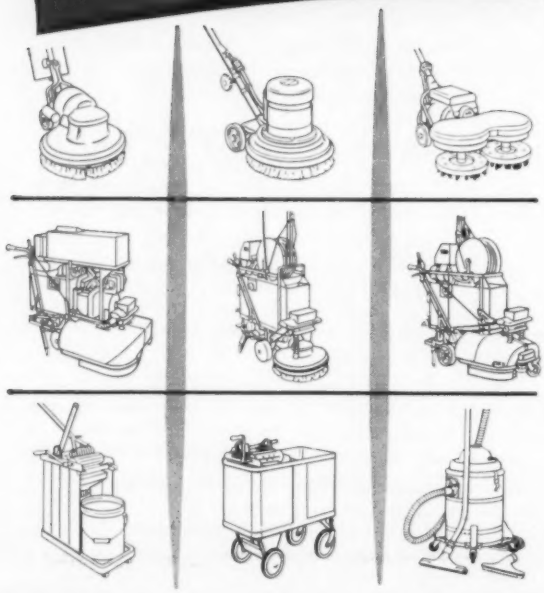
A TRADE MARK OF STANDARD BRANDS INCORPORATED

Keep your floor-maintenance men happy . . .

with *Job-Fitted* EQUIPMENT!

Choose from the COMPLETE *Finnell Line*

More than a score of models and sizes permits selection of the equipment that's exactly right for your job!



However much a maintenance man may want to do a good job, and at the same time show savings in labor costs, he's *stymied* if the machine is too small, or too large, or is otherwise unsuited to the job. Different floors and areas call for different care and equipment. That's why *Finnell makes more than a score of floor-maintenance machines.* From this complete line, it is possible to choose equipment that is correct in size as well as model . . . that provides the maximum brush coverage consistent with the area and arrangement of the floors.

Finnell makes *Conventional Polishing-Scrubbing Machines* in both concentrated and divided-weight types, each in a full range of sizes . . . a *Dry-Scrubber*, with self-sharpening brushes, for cleaning grease-caked floors . . . *Combination Scrubber-Vac Machines* for small, vast, and intermediate operations, including gasoline as well as electric models . . . *Mop Trucks* . . . *Vacuum Cleaners* for wet and dry pick-up, including a model with By-Pass Motor. In addition, *Finnell* makes a full line of fast-acting *Cleansers* for machine-scrubbing . . . *Sealers* and *Waxes* of every requisite type . . . *Steel-Wool Pads*, and other accessories — *everything for floor care!*

In keeping with the *Finnell* policy of rendering an individualized service, *Finnell maintains a nation-wide staff of floor specialists and engineers. There's a Finnell man near you* to help solve your particular floor-maintenance problems . . . to train your operators in the proper use of *Finnell Job-Fitted Equipment and Supplies* . . . and to make periodic check-ups. For consultation, demonstration, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1304 East St., Elkhart, Ind. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

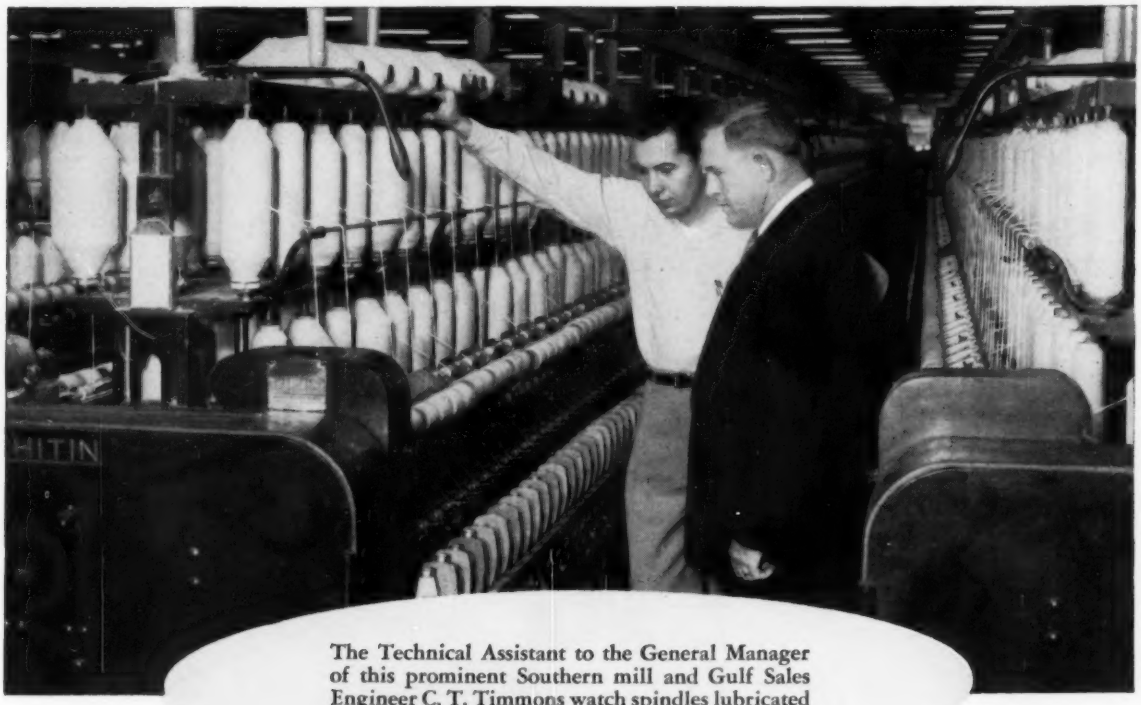
Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

"Sludge and rust are things of the past with GULFSPIN OIL on the job,"

*says this prominent southern mill.**



The Technical Assistant to the General Manager of this prominent Southern mill and Gulf Sales Engineer C. T. Timmons watch spindles lubricated with Gulfspin spin clean and free.

"Sludge, rust, and sticking spindles ceased to be a problem when we switched to Gulfspin three years ago," report mill personnel.

Many other leading textile mills have discovered that Gulfspin contributes to smoother operation, rock-bottom maintenance and power costs. Then too they appreciate the fact that spindle bases don't have to be cleaned so often.

Gulfspin works three ways to keep spindles clean and insure smoother spindle operation: First, it's oxidation stabilized to resist sludge formation. Second, it prevents contaminants from depositing in spindle bases, a major cause of spindle vibration. Third, it provides effective protection against rust—reduces bolster wear.

Contact a Gulf Sales Engineer and let him demonstrate Gulfspin's superiority on your frames. You'll find the number of your local Gulf office in the telephone directory.

**Name furnished upon request.*

Gulf Oil Corporation · Gulf Refining Company
1822 Gulf Building, Pittsburgh 30, Pa.

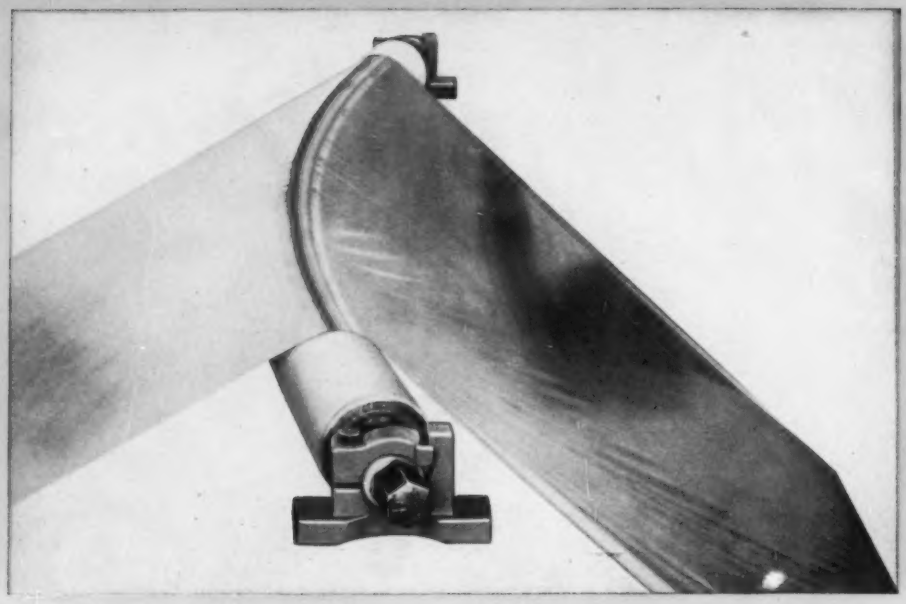
GULF

THE FINEST PETROLEUM PRODUCTS FOR ALL YOUR NEEDS

Mount Hope SYSTEM

INCORPORATES

"Free Wheeling" Expanders TO HELP YOU BEAT COMPETITION!



THE MOUNT HOPE "FREE WHEELING" EXPANDER holds your fabric to full width and free of wrinkles.

For Maximum Production—Lower Cost—Minimum Seconds—USE the Complete MOUNT HOPE SYSTEM

Write for a Production Cost Survey of your plant.

Another Service To You!

New Mount Hope **Southern** Repair Shop to give you fast, convenient service.

Originator of Modern Expanders • Leader in Cloth, Paper and Plastic Handling

SOUTHERN REPAIR SHOP • CHARLOTTE, N. C.

MOUNT HOPE MACHINERY COMPANY

153 FIFTH STREET, TAUNTON, MASS.

VAT BLUES? ...INDANTHRENE!®

GDC offers a line of more than 20 anthraquinone vat blues—unsurpassed for uniformity of application in all vat dyeing methods. You make your selection with full confidence in our ability to deliver with unvarying reproducibility . . . We call your particular attention to these outstanding

INDANTHRENE BLUES

Blue BPF produces the ideal blue shade of outstanding to maximum light fastness and good fastness to chlorine and laundering.

Blue CLN offers excellent chlorine fastness and is especially recommended for light and medium shades on pressure machines because of its very good level-dyeing properties.

Blue GCD of outstanding light fastness and very good wash fastness with good level-dyeing properties.

Brilliant Blue RCL for bright reddish shades with very good fastness to chlorine and laundering.

Green Blue 3G is a very recent addition to the line of exceptional light fastness, excellent wash fastness and superior resistance to weather.

Navy Blue B newest in the line and of excellent light, washing and chlorine fastness; particularly suitable for desirable navy shades.

Navy Blue BRF for bright navy shades with very good light fastness.

Dark Blue BOF for building up navies or as a self shade with very good light, washing and level-dyeing properties.

All brands are available in powder form and also as pastes of "INFRA" quality—finely milled to offer instant and complete dispersion for greater ease of working to produce speck-free light shades. We urge you to investigate these fine products for your color-matching problems.

From Research to Reality . . .

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GENERAL DYESTUFF COMPANY

A SALES DIVISION OF

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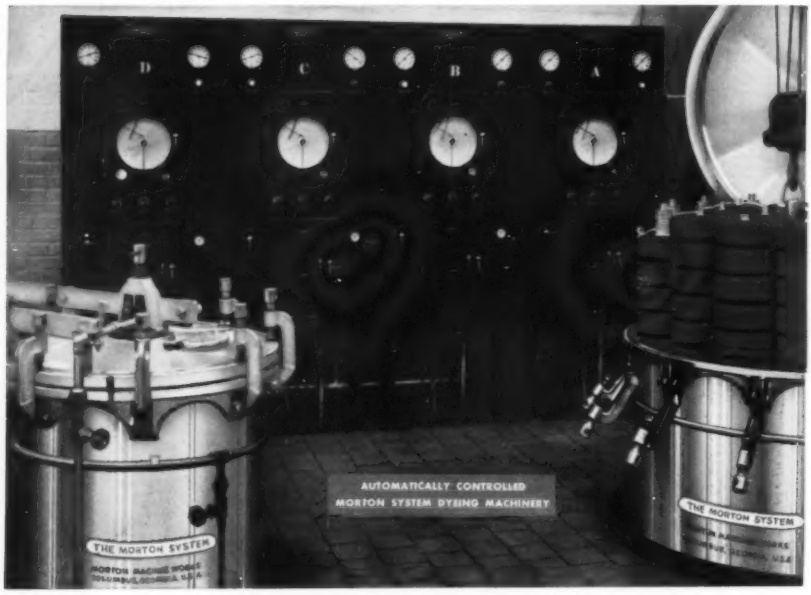
BOSTON · CHARLOTTE · CHATTANOOGA · CHICAGO · LOS ANGELES · NEW YORK · PHILADELPHIA · PORTLAND, ORE. · PROVIDENCE · SAN FRANCISCO · IN CANADA: CHEMICAL DEVELOPMENTS OF CANADA, LTD., MONTREAL

MORTON SYSTEM . . . .

MASTER DYER AUTOMATIC CONTROLS FOR USE WITH DYEING, BLEACHING AND DRYING MACHINERY

★ Control: Temperature with Rate of Rise and Records — Directional Flow of Liquid and Time Cycle Records for matching colors with Accuracy — Indicating Lights and Warning Signals — Pressure Gages — Flow Control — Pump Switch — May be operated fully automatic or semi-automatic. —



The Master Dyer is not a substitute for technical knowledge or plain "know how". It will not replace the skill or human element, but will be most valuable as a helping friend. We believe them to be worth while in any dye house operation. They are simple to maintain and understand. Let us discuss your operations and then determine the type Automatic Controls that will best suit your production.

Manufactured by:

MORTON MACHINE WORKS, Inc.

COLUMBUS, GEORGIA, U. S. A.

Manufacturers of the MORTON SYSTEM Machinery for Dyeing and Bleaching of:

BEAMS -:- PACKAGES -:- STOCK -:- PIECE -:- TOPS

VALVES — PUMPS — BEAM AND PACKAGE EXTRACTORS AND DRYERS — DYE BEAMS, ALL MAKES AND DESIGNS — DYE TUBES — DYE SPINDLES — TUBE SPACERS — CUSTOM BUILT TANKS TO CUSTOMER'S SPECIFICATIONS.

HYSTER INDUSTRIAL TRUCKS MOVE MATERIALS *FASTER!*

at Greater PROFIT to You

The MATERIAL HANDLING INSTITUTE'S EXPOSITION
Cleveland, Ohio
PUBLIC AUDITORIUM
JUNE 5th THRU 8th
1956

VISIT BOOTHS 1116 and 1422

QN-20 with Load-Grab® stacking rolls of wrapped cloth waiting shipment. Free-lift upright is essential for high stacking in low ceiling warehouses.

Pictured above is one of many typical examples of how Hyster® Industrial Trucks are helping to effect tremendous savings in the cost of handling materials in the Textile Industry.

Even if you are now using lift trucks or have never used industrial trucks of any kind, your Hyster dealer can show you how you can quickly realize more profit from your operation with these multi-purpose utility tools. Your Hyster dealer knows materials handling . . . he is an expert on the problems and their solution. He can help you with special techniques and cost reducing methods. Call him today...why not take advantage of his materials handling know-how?

HYSTER DEALERS GIVE YOU ALL 3!

1. **PLANNING** — your Hyster Dealer will plan your materials handling operation from scratch, or will analyze your present system to see if it can be improved.
2. **THE RIGHT TRUCK** — for your job from Hyster's complete line of industrial trucks (1,000-30,000 lbs.) and over 100 job-attachments.
3. **THE RIGHT SERVICE**—ample spare parts stock, shop facilities, factory-trained mechanics and an efficient field service that keep your Hyster lift trucks going on your job, wherever your job might be located. Hyster trucks are noted the world over for their low downtime.

Materials Handling Trucks from 1,000 to 30,000 pound capacities

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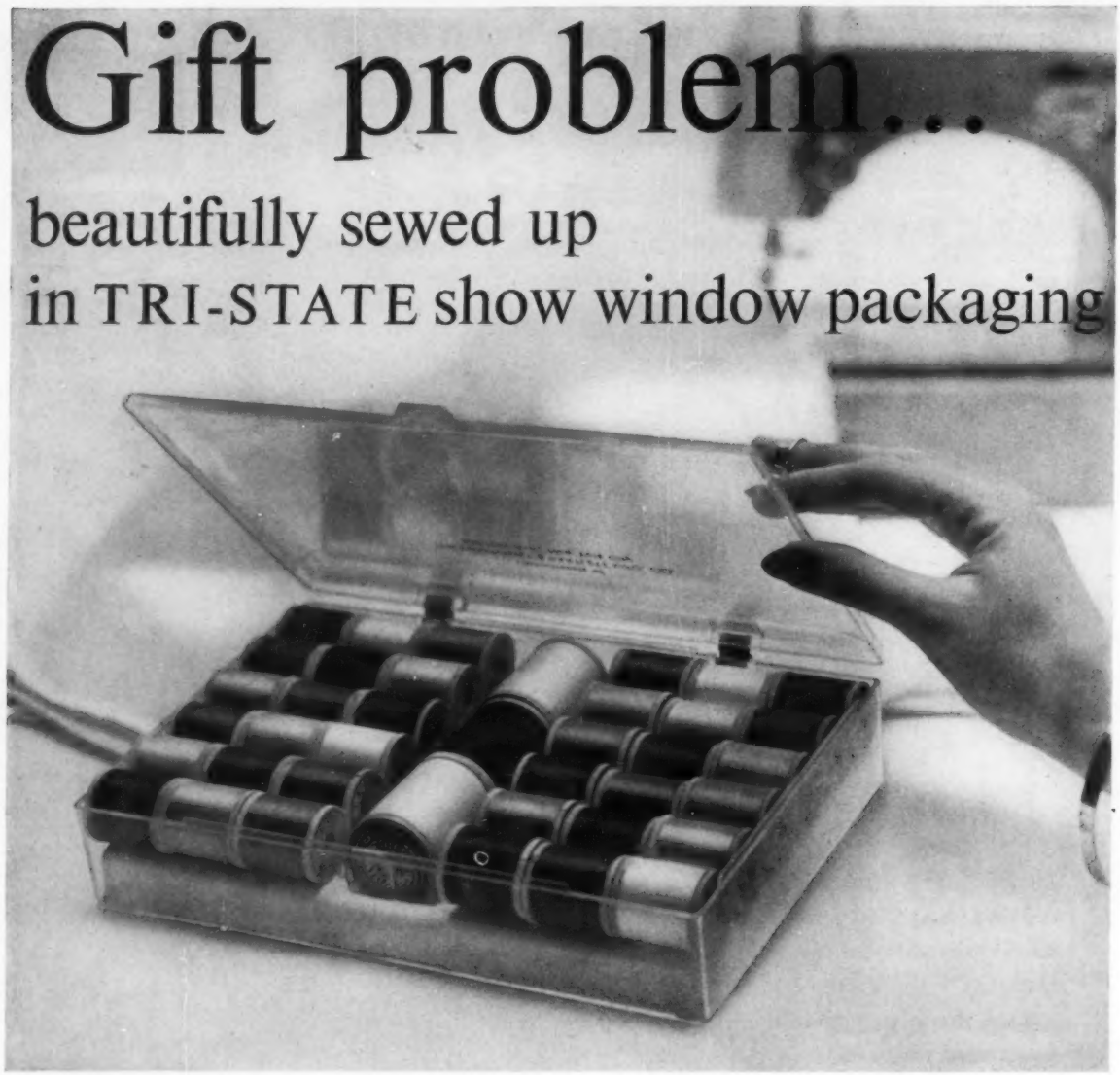
HYSTER N.V. .....NIJMEGEN, THE NETHERLANDS
FOUR FACTORIES: Portland, Oregon; Danville, Illinois; Peoria, Illinois; Nijmegen, The Netherlands.

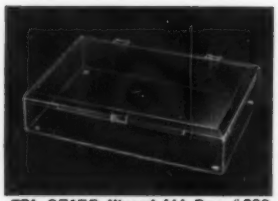
HYSTER

HYSTER COMPANY

Gift problem...

beautifully sewed up in TRI-STATE show window packaging





TRI-STATE Hinged Lid Box #600
6-5/16" x 9½" x 1½".
From a huge variety of stock sizes and shapes, or we will mold large quantities to your specifications.

Holiday remembrances are a major project in company relations today. *The Heminway & Bartlett Mfg. Co.*, for 66 years makers of threads for industrial and home sewers, has come up with a gift solution that is a veritable "treasure chest" of good will. It's this TRI-STATE jewel-like container . . . filled with bright-colored nylon threads that look so gift-y in the crystal clear box.

This is one of many areas in which TRI-STATE rigid plastic boxes have added dimension to the most staple products. Today, in practically every type of merchandising and promotion, TRI-STATE "bonus boxes" have become a symbol of better product display, product protection, and increased sales.

Look into the world's greatest assortment of rigid plastic boxes for a new lift for your product.

TRI-STATE PLASTIC MOLDING CO., *Inc.*
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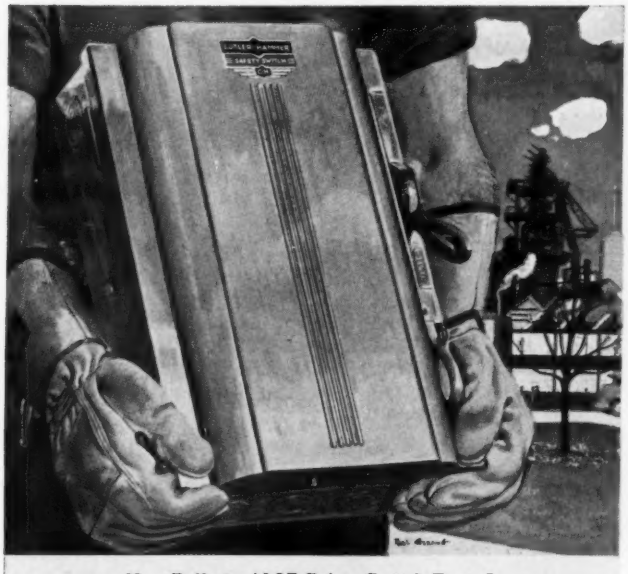
WHAT'S NEW IN MOTOR CONTROL? ★ ★ ★ GET IT FIRST IN CUTLER-HAMMER

Now...A Safety Switch Built to the Standards of Cutler-Hammer Three-Star Motor Control

☆ *installs easier*

☆ *works better*

☆ *lasts longer*



New Bulletin 4105 Safety Switch Type A, 30 to 1200 Amp. Sizes

Engineered for "heat-proof" dependability. New design for minimum internal heat generation; new materials for heat immunity.

Automatic pressure fuse receivers; no screws to forget to tighten . . . no screws to loosen in service by alternate expansion and contraction.

Visible blades for quick and sure inspection at all times. New double insulated steel operating hook. Safety is important in safety switches.

Panel mounted mechanism of this new Bul. 4105 Safety Switch is readily interchangeable with that of the old Bul. 4101 to permit replacements without case and conduit work.

The new Cutler-Hammer Three-Star Motor Control has proved a sensation wherever it has been tested in comparison with any other control equipment. The tougher the tests, the more dramatic has been its demonstrated superiority. A kaolin processing plant in Georgia, for example, reports: "Because of the hard service we give motor control in our plant, we have always had to replace contacts every 30 to 60 days. Our first Three-Star Control unit has now been in daily use for *thirteen months* and its original contacts still look and work like new." A lumber mill in California says: "Control contacts have always been a problem on our drive of the feed chain going to the trim saw. We had to replace contacts every few weeks. Our first Three-Star Control on this job, purchased from the stock of our local Cutler-Hammer distributor, is now in its *twenty-fourth month* of continuous daily operation with its original contacts still in service."

Such control equipment brings important operating dependability and savings to any job where an electric motor is used. But it also means that such better motor control should be matched with a safety switch which can equal the performance of the motor control. And now this is possible. Cutler-Hammer Authorized Distributors are now stocked and ready to serve you with the new Bul. 4105 Safety Switch, the safety switch built to the standards of Cutler-Hammer Three-Star Motor Control. It is loaded with new features. See it. Try it. Prove it. Order one today.

CUTLER-HAMMER, Inc., 1456 St. Paul Ave., Milwaukee 1, Wisconsin.

CUTLER-HAMMER ★ ★ ★ MOTOR CONTROL C-H

Cutler-Hammer Three-Star Motor Control can now be obtained in every needed form

Cutler-Hammer Authorized Distributors carry stocks of Three-Star Motor Control in sizes and types of enclosures to meet all the usual industrial needs.

Leading machinery builders equip their machines with Cutler-Hammer Three-Star Motor Control as standard original equipment, often as components on panels.

The new Cutler-Hammer Three-Star Unitrol provides for the quickest installation or rearrangement of the finest in control equipment, C-H Three-Star Motor Control.

Spindle Speeds

"...Textile Operations can be Checked More Rapidly with the STROBOTAC®"

"We have found that by using the Strobotac to determine spindle speeds, the job can be done much more rapidly. As a matter of fact, if we had to use some other speed indicator, we would only make spot checks as each frame has 252 spindles. With the Strobotac, however, we can walk right along the frame, checking each spindle without having to even break down an end."

CROSS COTTON MILLS Company
C. F. Goldsmith

STROBOTAC® ... for the accurate measurement of speeds from 300 rpm to 100,000 rpm . . . will "stop" or "slow" cyclic motion from 60 to 100,000 rpm for visual observation of rapidly moving parts or mechanisms . . . operates from any 115-volt, 60-cycle a-c line... requires no mechanical or electrical connection to the part under observation . . . is easily handled and operated and has a 2 or 3 foot field of vision.

The G-R Strobotac is being used in hundreds of textile plants throughout the country to insure the quality of woolen, cotton, silk and synthetic yarns of all types.

The Strobotac permits visual observation in s-l-o-w motion of rapidly moving parts and mechanisms which are impossible to see with the unaided eye.

Defects which can readily be detected with the stroboscopic light produced by this instrument include: slack or dirty bands or tapes, spindles that need oiling, crooked idlers, spindles out of plumb or cracked or worn, bobbins that fit spindles inaccurately, belt and tape slippage . . . ring rail not level . . . thread in whorl, uneven yarn, mixed yarn and oily yarn . . . uneven motion of ring travelers . . . and many others.

Any spindle speed variation such as slow starting, slipping, or failure to stop immediately can give inferior quality yarn. The Strobotac makes it possible to put a spindle through all of its "paces", permitting accurate visual observation for any possible defective operation. Regular scheduled use of the Strobotac will definitely improve the quality of yarn in your plant.

Type 631-BL STROBOTAC
$155.00

Let us tell you how the Strobotac can help you — Write for the G-R Strobotac Bulletin

STROBOTAC®

Manufactured and Sold Exclusively by . . .

GENERAL RADIO Company 275 Massachusetts Avenue, Cambridge 39, Mass

North-East, South or West,

Naugatuck is there to serve you

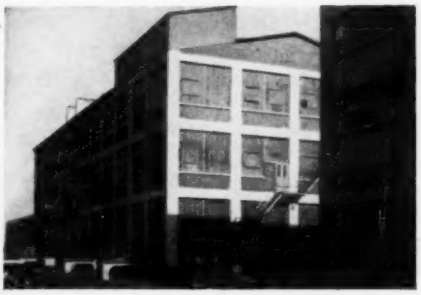
With latex compounds, of course! For Naugatuck—world's leading compounder of rubber and/or plastic latices, known as LOTOLS®—now operates *three* modern compounding plants.

Strategically located at Naugatuck, Connecticut; Gastonia, North Carolina; and Los Angeles, California; they provide fast, economical delivery to all parts of the country. These plants are equipped with modern, high-speed measuring devices permitting *fast* and *accurate* formulation of latex compounds to meet the exact needs and equipment of the user.

Whatever your need for these LOTOLS...whatever your location...there's more reason now than ever to make Naugatuck your regular supplier.

Naugatuck LOTOLS are used for

Upholstery Fabrics	Bag & Wrapping Papers
Textile Sizing	Masking Tape
Carpet Backing	Adhesives
Non-woven Fabrics	Gloves
Upholstery Pads	Balloons & Beach Balls
Combined Fabrics	Girdles & Baby Pants
Tire Cord	Meteorological Balloons
Hose & Belting	Rug Underlay, etc.



United States Rubber

Naugatuck Chemical Division

Naugatuck, Connecticut

BRANCHES: Akron • Boston • Chicago • Memphis • New York • Phila. • **Mfg.:** Los Angeles • Gastonia • Naugatuck • **CANADA:** Naugatuck Chemicals, Elmira, Ont. Rubber Chemicals • Synthetic Rubber • Plastics • Agricultural Chemicals • Reclaimed Rubber • Latices • Cable Address: Rubexport, N. Y.

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It's a fact . . . Backed by new, conveniently located headquarters at Gaffney, S. C., National-Sterling Sales Engineers are now equipped better than ever to serve the Southern Textile Industry.

Replacing our former headquarters at Charlotte, this new Office and Warehouse provides improved facilities for receiving, storing and shipping the complete line of National-Sterling Ring Travelers in all weights, sizes and styles. Combined with the technical knowledge of our Sales Engineers and their proven ability to select the right traveler for every need, this central source of supply will enable us to meet your exact requirements quickly and completely—whatever fibres you are running.

Wherever your plant is located — in the South or North — always ask for National-Sterling when you order ring travelers. Write, wire or phone for prompt service.

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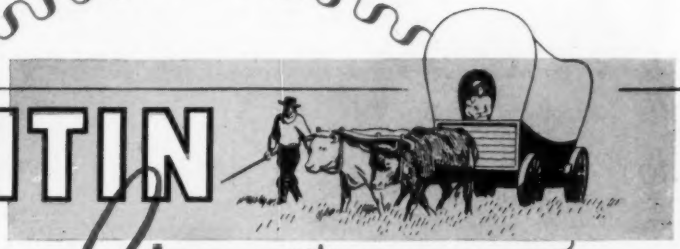
NATIONAL RING TRAVELER CO. PAWT. R.I. U.S.A.

FOR SPINNING AND TWISTING ALL NATURAL AND SYNTHETIC FIBRES

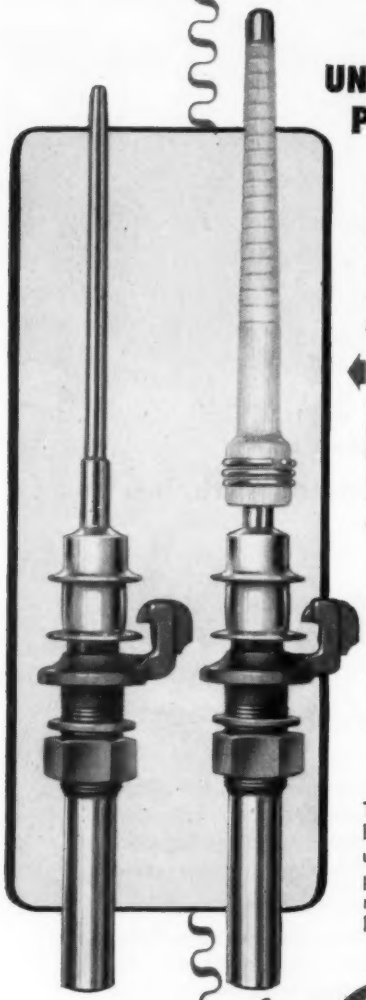
WHITIN



*Pioneer** SPINDLES

for Spinning

UNEQUALLED for PERFORMANCE
PRODUCTIVITY • LONG LIFE



For outstanding performance, productivity, and low cost of operation, Whitin PIONEER Spindles for spinning are specified by leading mills. Their design, construction, and manufacture are the result of more than a century's experience.

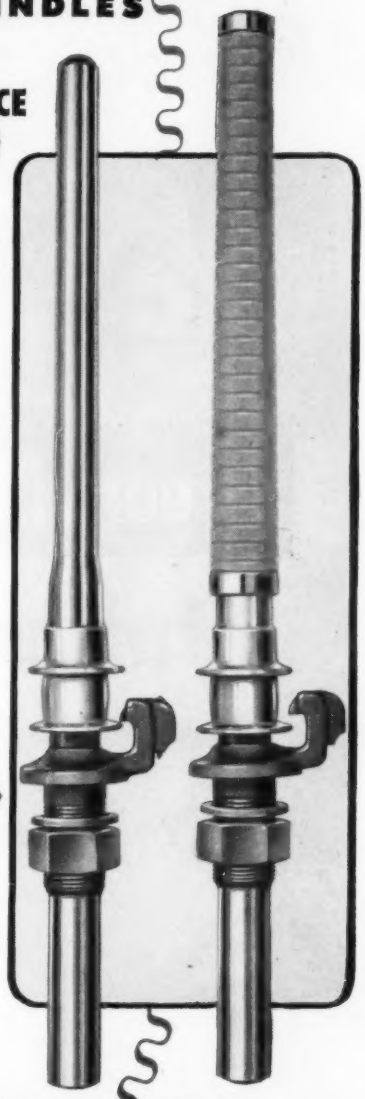
TOP DRIVE TYPE**

Whitin's newest spindle for wood filling bobbins drives the bobbins from inside the bobbin nose or top. Thoroughly tested in large installations in several mills, it provides many attractive advantages over conventional cone drive filling spindles.

- Increase of 15-20% in spindle speed
- Approximately 10% more yarn on the bobbin
- Improved bobbin wind secured through better tension
- Bobbin centralizing on own axis means less vibration
- Improved spinning production and quality

ALUMINUM SLEEVE TYPE**

This spindle for paper tubes is acclaimed by the users of approximately 2,000,000 as unmatched for its long wear, simplicity in plumbing and maintenance, smooth running characteristics, and extremely low lubrication costs.



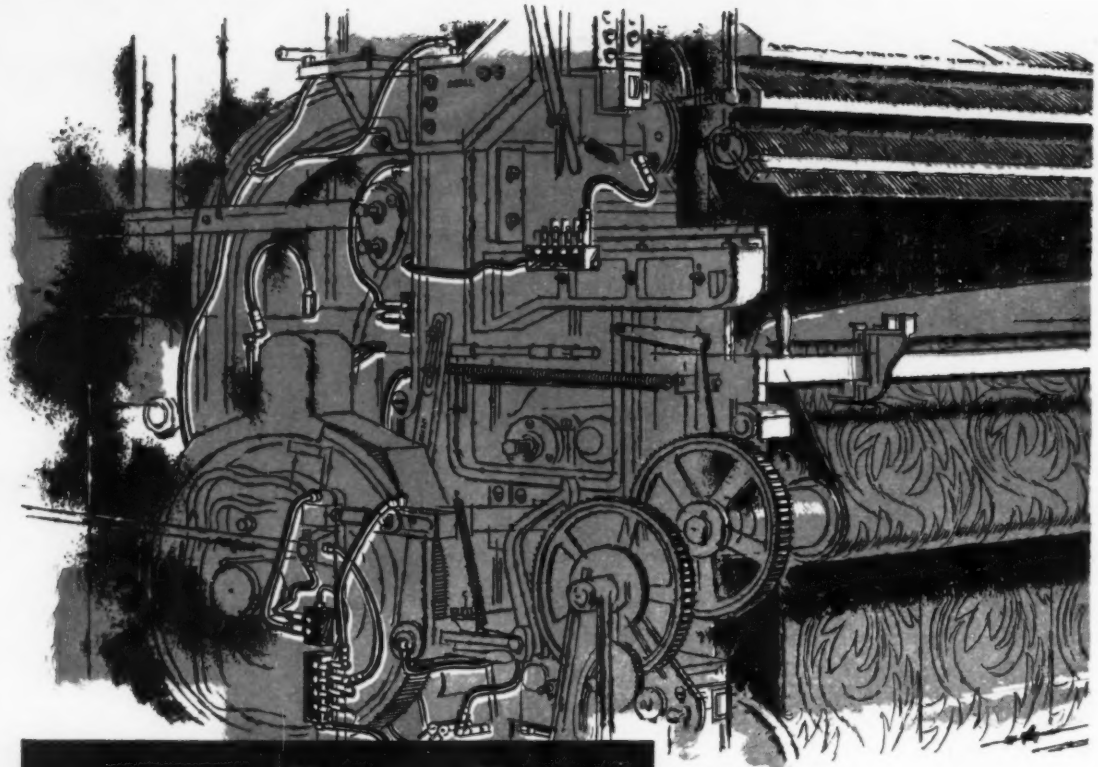
* Trade-Mark

** Anti-Friction, of course

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.



Greenville Mills, INC.

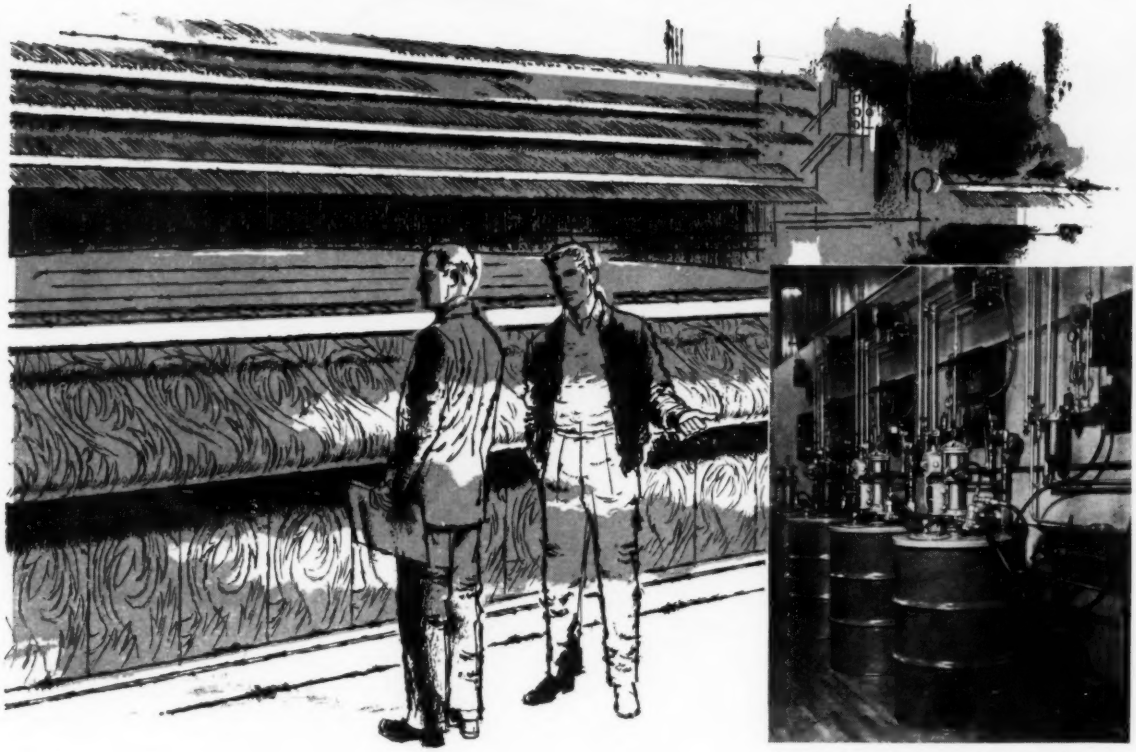
Division of Alexander Smith, Inc.

Eliminates a "rugged"

Hand lubrication was a major maintenance factor on the high-speed twisters and rug looms at this vast, ultramodern Mississippi mill. Inadequate lubrication caused bearing wear and costly downtime for repairs. Excessive lubrication could, of course, spot and spoil materials in process.

Then Lincoln Automatic Centralized Lubrication was installed on equipment like the big, 12-foot Crompton & Knowles Axminster loom pictured above. Now, lubrication to each essential bearing is accurately time clock-controlled from a central pumping station. Lubrication takes place while the

Lincoln THE MOST TRUSTWORTHY NAME IN LUBRICATING EQUIPMENT



Illustrated, bank of time clock-controlled, power-operated lubricant pumps automatically, supplying System at predetermined intervals.

maintenance problem

WITH *Lincoln* CENTRALIZED LUBRICATION

equipment is in operation . . . automatically. Not only is maintenance time drastically reduced, but bearing failure, due to inadequate lubrication, is eliminated.

Today, in mills and plants of all kinds . . . throughout the U. S. . . . similar Lincoln Centralized Lubrication installations are slashing operating costs and speeding production. For information on how these Controlled Lubricant Application Systems can trim overhead in your plant, contact the Lincoln Distributor in your area. You'll find his name listed in the "Yellow Pages" of your phone book.

LIN-594

SEND TODAY for your free copy of our new Controlled Lubrication Catalog No. 80-1
LINCOLN ENGINEERING COMPANY, 5702-18 Natural Bridge Avenue, St. Louis 20, Missouri

IN APPRECIATION TO

the more than fourteen hundred

Service Award Winners

who, over a period of more than a quarter of a century as valued members of our employee-management team, have contributed to the growth and progress of our organization.

Through devotion to their assignments, they have inspired 15,000 others to work together in producing fabrics which reflect credit upon them as craftsmen in an old and honored industry.

CONE MILLS CORPORATION

GREENSBORO • NORTH CAROLINA

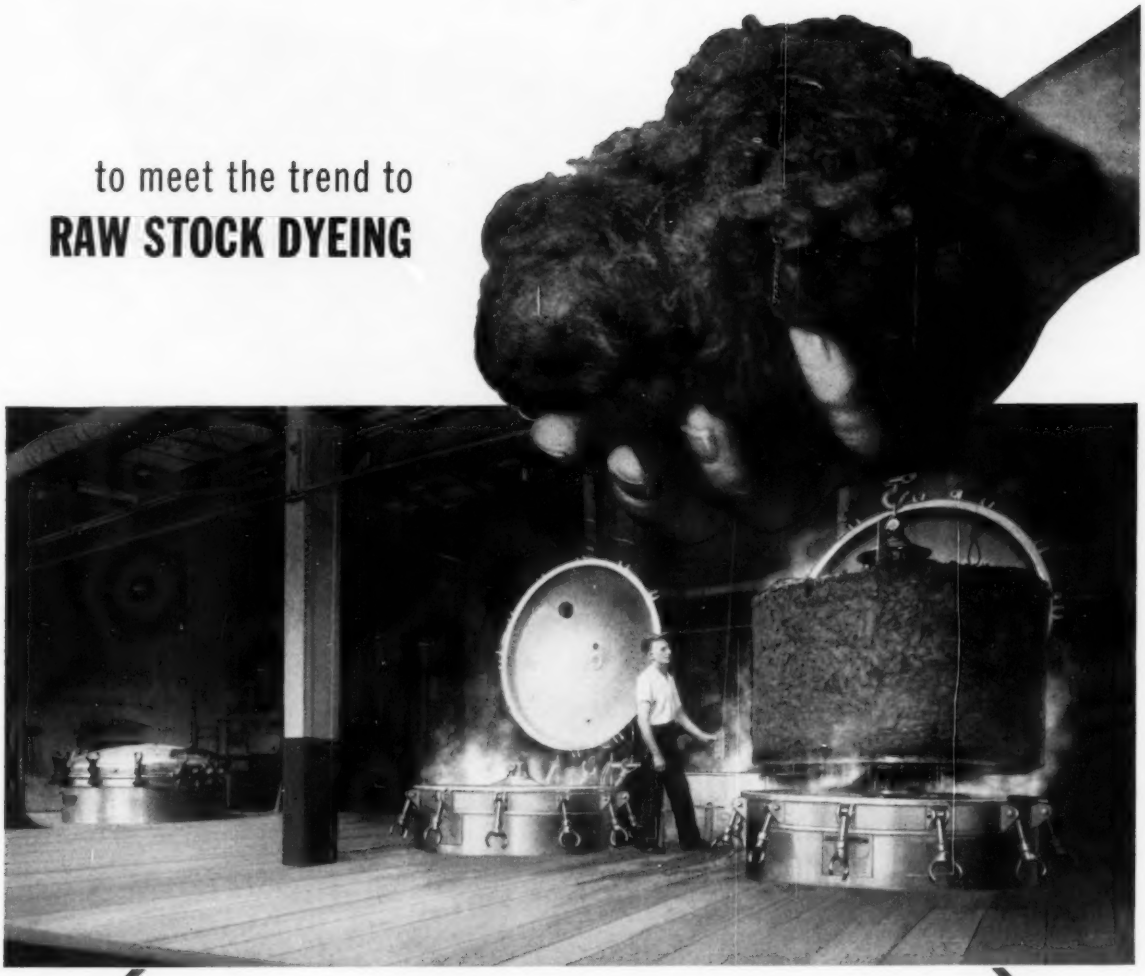
PROXIMITY PLANT, Greensboro, N. C. • WHITE OAK PLANT, Greensboro, N. C. • REVOLUTION DIVISION, Greensboro, N. C. • TABARDREY PLANT, Haw River, N. C. • EDNA PLANT, Randleman, N. C. • RANDLEMAN PLANT, Randleman, N. C. • DWIGHT DIVISION, Pineville, N. C. • PINEVILLE PLANT, Pineville, N. C. • ENO PLANT, Hillsboro, N. C. • CLIFFSIDE PLANT, Cliffside, N. C. • HAYNES PLANT, Avondale, N. C. • MINNEOLA PLANT, Gibsonville, N. C. • SALISBURY PLANT, Salisbury, N. C. • REVOLUTION RAYON PLANT, Greensboro, N. C. • PRINT WORKS PLANT, Greensboro, N. C. • GRANITE PLANT, Haw River, N. C. • FLORENCE PLANT, Forest City, N. C. • AMERICAN SPINNING PLANT, Greenville, S. C.

Selling Organization:

CONE MILLS, INC., 59 WORTH ST., NEW YORK CITY

to meet the trend to

RAW STOCK DYEING



The new

SMITH-DRUM

High Temperature

RAW STOCK DYEING MACHINE

There is an increasing trend to raw stock dyeing . . . of both wool and synthetic fibers. To meet this trend, SMITH-DRUM has applied its years of experience in package dyeing to the development of a new Raw Stock Dyeing Machine. This new machine, which has been thoroughly tested in actual operations, embodies many of the exclusive features that have made the SMITH-DRUM Package Dyeing Machine the leader in its field. It is extremely versatile and may be used for high temperature or normal temperature dyeing of both wool and synthetics. It insures more *even dyeing* because it provides uniform distribution of liquor flow. Unloading is easier and faster, due to the carrier design which provides a vertical dividing plate. Tanks are built and tested to A.S.M.E. standards. Complete information will be supplied on request.

SMITH, DRUM & COMPANY

432 W. Allegheny Ave., Philadelphia 33, Pa.

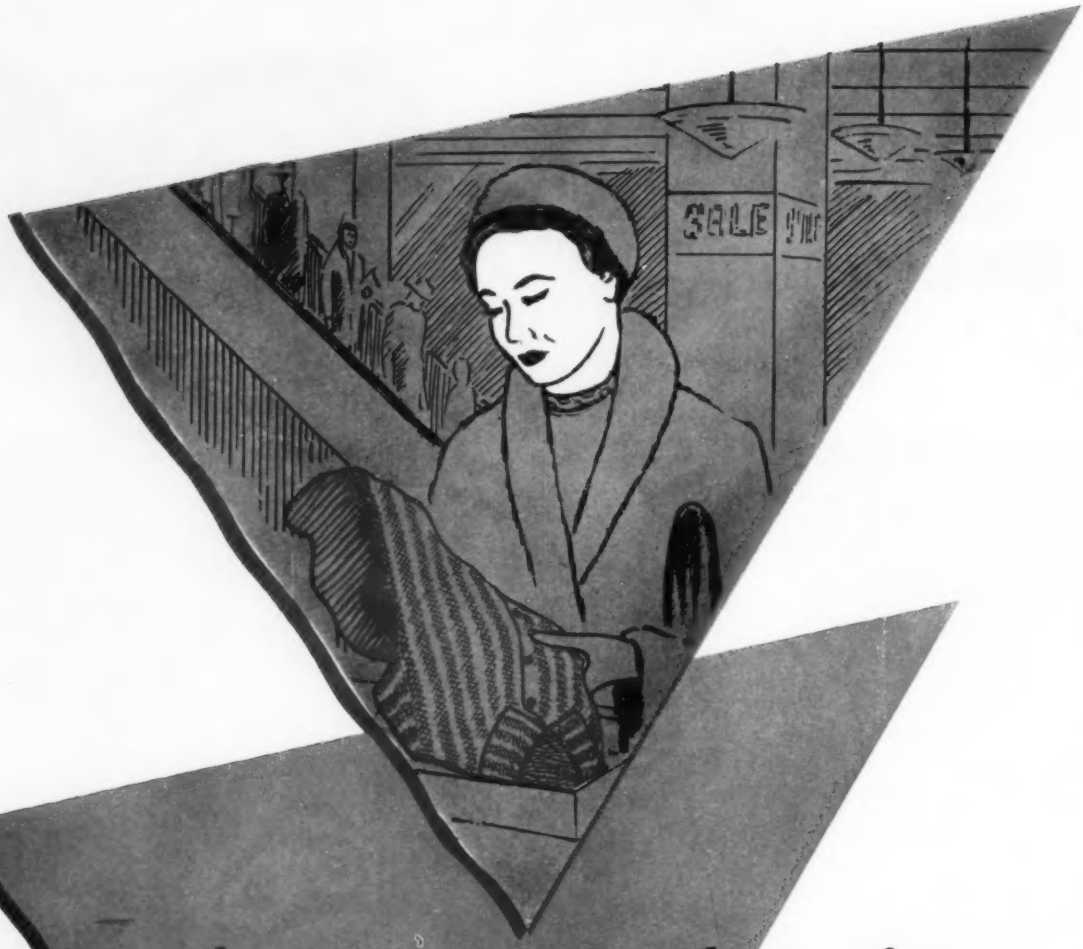
Southern Representatives:

PARROTT & BALLENTINE

510 S. Carolina National Bank Bldg.

Greenville, S. C.

Also Builders of Dyeing Machines for Packages, Beams, Tops, Rayon Cakes and Skeins.



the customer knows about softeners

Until she tries this garment on, she won't know how it fits . . . until she washes it, she won't know whether it will fade or shrink . . . but the minute she *feels* it, she detects immediately whether it has that soft, lofty hand she is looking for. The best way to avoid disappointing her is to insist that Hart softeners be used in your finishing processes.

SYNTHO-SOFTENERS — Non-yellowing substantive softeners for cellulosic and synthetic fibers. Does an excellent job with resin finishes.

SORBITEX — Anionic, completely non-yellowing softener for cotton, woven and knit goods, and cotton napping.

CATYLEX — Cationic, substantive softener for synthetics.

FINISH WS — Nonionic softener and lubricant, especially recommended for napping and scrooping of nylon.

Technical bulletins and complete information will be gladly sent on request.

the Hart Products Corporation

1440 BROADWAY, NEW YORK 18, N. Y.

Works and Laboratories, Jersey City, N. J.

Hart Products Company of Canada, Ltd., Guelph, Ontario

CAN AUTOMATION SAVE YOU MONEY?

IT CAN IF YOU INSPECT AND PACKAGE QUALITY FABRICS

You can save real money with this new way of inspecting and packaging broadgoods. Some mills report 80% to 90% savings on their tubing costs with the Van Vlaanderen Combination Examining, Tubing and Measuring Machine.

Here's how it's done. Finished goods are inspected in the usual way, but with this difference — the machine automatically tubes a perfect package while your operator examines. The operator devotes his entire attention to the examining operation. If you examine every yard of your goods this means a 100% saving in tubing time as well as savings in floor space and power consumption.

Proportionate savings result where only a part of each piece or roll is examined.

Users report that not only have they realized substantial savings with this great new machine but they get better inspecting and packaging too because of the automatic feature and increased operator efficiency.

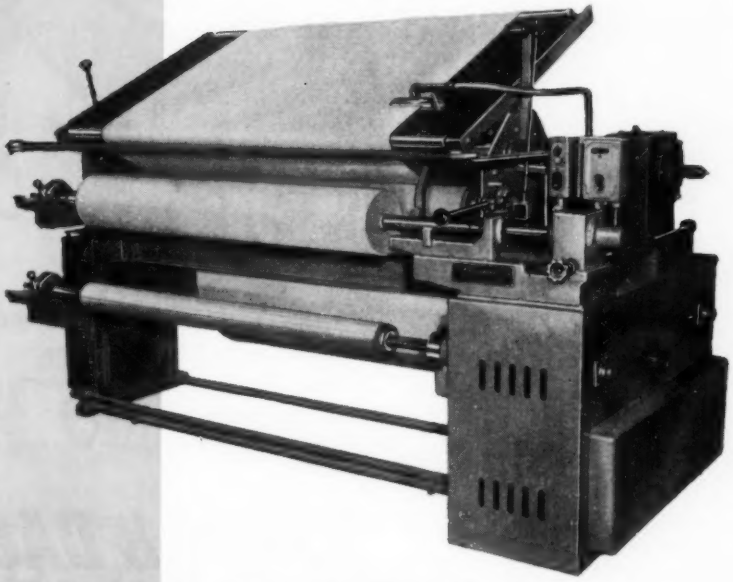
Ask our engineers to give you full information.

The VAN VLAANDEREN COMBINATION EXAMINING, TUBING and MEASURING MACHINE is built with a ruggedness and precision not before available in examining machines. Frames and girts are of cast iron and anti-friction bearings are used throughout.

All fabrics, from sheers to heavy ducks, plastics and paper may be examined, measured and tubed . . . simultaneously or separately.

One-station group control further increases operator efficiency. Starting, stopping, reversing and changes in speed from the slowest examining rate to the highest tubing speed are made effortlessly and instantaneously.

Yardage counter is graduated in yards and eighths.



VAN VLAANDEREN

MACHINE COMPANY

370 Straight Street • Paterson 3, New Jersey

Cable Address: Vlaanderen, Patersonnj, U. S. A.

In the South — Parrott and Ballentine • 610 South Carolina National Bank Building • Greenville, South Carolina
In New England and Canada — William E. Stubbins • 118 Empire St. • Providence, Rhode Island

WORLD'S LARGEST MANUFACTURER OF MACHINES FOR PROCESSING MODERN FABRICS

"Fresh from the mill!"

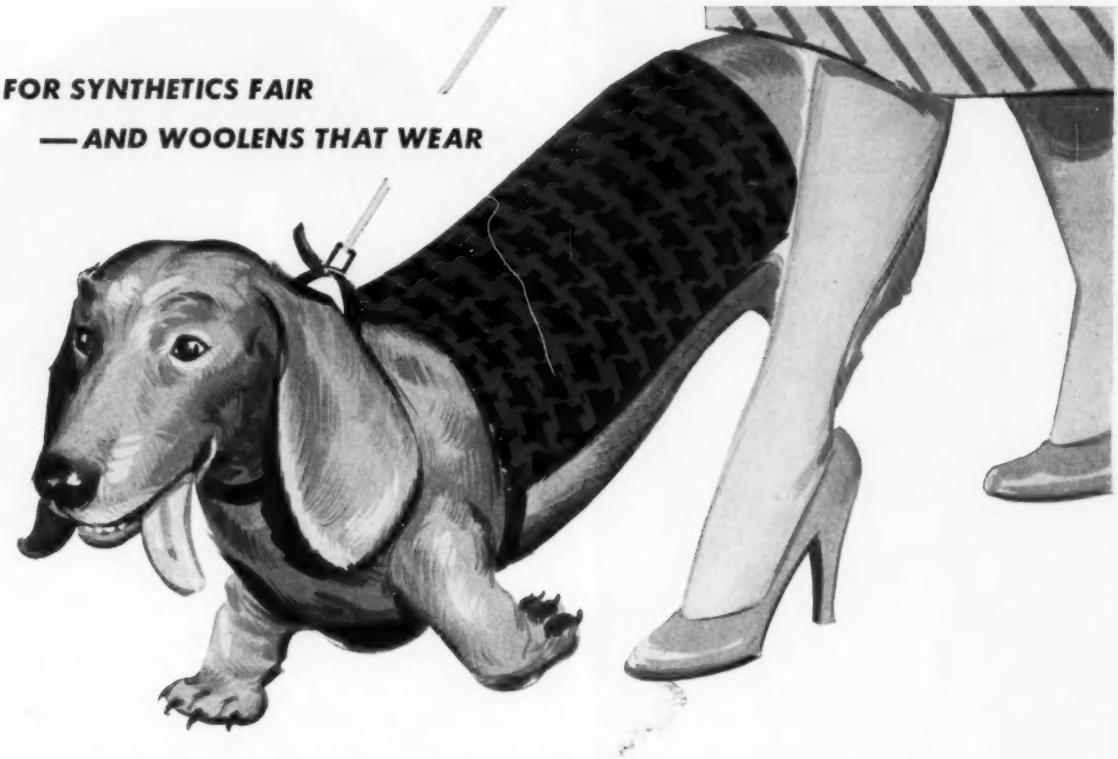
These H & D corrugated shippers double as storage-dispensing bins... keep yarns clean and orderly during and after shipment. Ask H & D to help improve your packaging, too.

HINDE & DAUCH

Subsidiary of West Virginia Pulp and Paper Company

AUTHORITY ON PACKAGING • SANDUSKY, OHIO
13 FACTORIES • 42 SALES OFFICES

FOR SYNTHETICS FAIR
—AND WOOLENS THAT WEAR



SWIFT'S SOAPS

treat fine fabrics RIGHT!

Kleinbark III is as proud as a post in his latest in hound's tooth — she in her Park Avenue nylon print.

Pride in workmanship and quality in textile finishing is *more* than a satisfaction of company tradition these days . . . it's turnover at the shelves and orders in the book; *money* in the bank!

That's why, at Swift, we're not *resting* on a 50-year tradition of selling soap to the textile industry, we're constantly adding to our line and our service facilities to better meet your day-to-day requirements — *by service.* There's a Swift's Soap for your woolen or synthetic finishing job regardless of your water temperature. And there's one for use where fine dyeing calls for gentle, yet complete scouring. There's one for you to use *wherever* fine fabrics need the *right* treatment!

Write for details on any of the Swift Soaps listed at right and remember . . .

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

AND THERE'S ONE TO SERVE YOU IN DYEING, FULLING OR SCOURING

Here are a few:

VERTEX FLAKES

Low titer (8-12°C) removes troublesome contaminants quickly in silk, wool, cotton and synthetic fiber operations.

WHITE RIBBON (Chips or Powder)

For use in high temperature operations. 41-42°C titer. Highest quality neutral soaps.

T-25 FLAKES

Designed for the Textile Industry. Contains special blend of low titer distilled red oil and lard fatty acid base. Excellent for scouring and fulling operations.

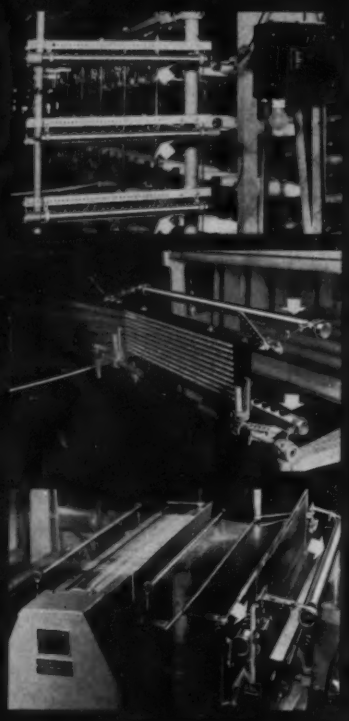
SWIFT & COMPANY

Swift
101ST YEAR

SOAP DEPARTMENT S-17
4115 Packers Ave. Chicago 9, Illinois

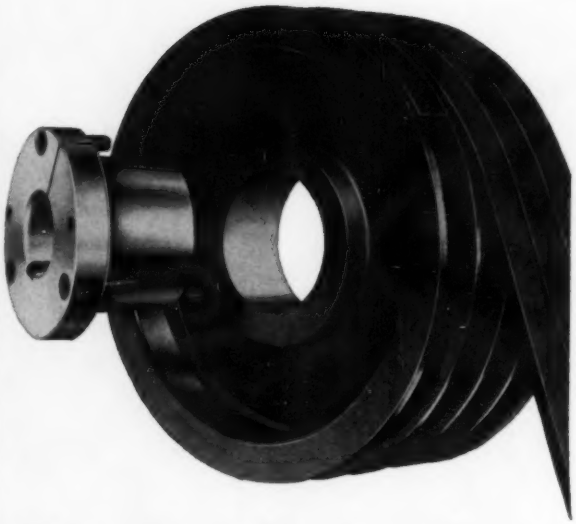
To Serve Your Industry Better

Robert Reiner, Inc., recommends the SIMCO "Midget" Static Eliminator for unthrown yarns!



● Every application of the SIMCO *"Midget"* on a creel or warper to date has given outstanding results—a perfect, evenly tensioned, ridgeless warp beam. It is the most efficient neutralizer for high speed operations . . . yet it is lowest in cost! Write for full information today.

the **SIMCO** company
920 Walnut Street, Lansdale, Pa.



The adjustable-speed wedgbelt drive is a Combination...

. . . of American Wedg-Tite Companion Sheaves, precision-matched to the same taper of the bushing, the exact sidewall angle of the belt. Machined to a satin finish, with accurate balance and concentricity, they lower frictional power-loss, increase plant efficiency.

. . . of American Wedg-Tite Bushings with exclusive *steeper taper* for fast installation and easy removal, uniform compression, positive alignment, and maximum clamping action on the shaft.

. . . of American Wedgbelts, mold-cured to vary less than ¼ of 1% in length, with strict uniformity in taper, thickness and width. Dacron* cords in Super-Service Wedgbelts are 2½ times stronger than rayon, withstand shock loads and high starting torques.

. . . of American Adjustable-Diameter Sheaves, allowing stepless speed variation by internal change of pitch diameter of the sheave. Simultaneous flange movement keeps belt alignment constant. Exclusive *double-taper* hub locks flanges in position, locks sheave tight to shaft . . . assures positive speed control.

THE RIGHT COMBINATION FOR MAXIMUM VARIATION OF MACHINE SPEEDS

*Reg. TM. E. I. DuPont de Nemours & Co., Inc.

The American Pulley Company
4232 Wissahickon Avenue
Philadelphia 29, Pa.

Keep Synthetics and Blends "in the pink"

National Nacelan® Pink 3B

Bright, fast shades of pink and bluish red on acetate, interesting bluish red hues on nylon . . . that's the spectral story of National Nacelan Pink 3B. On acetate it has good-to-excellent fastness to light and wet processing; on nylon it exhibits even better fastness properties. It has excellent printing properties on both.

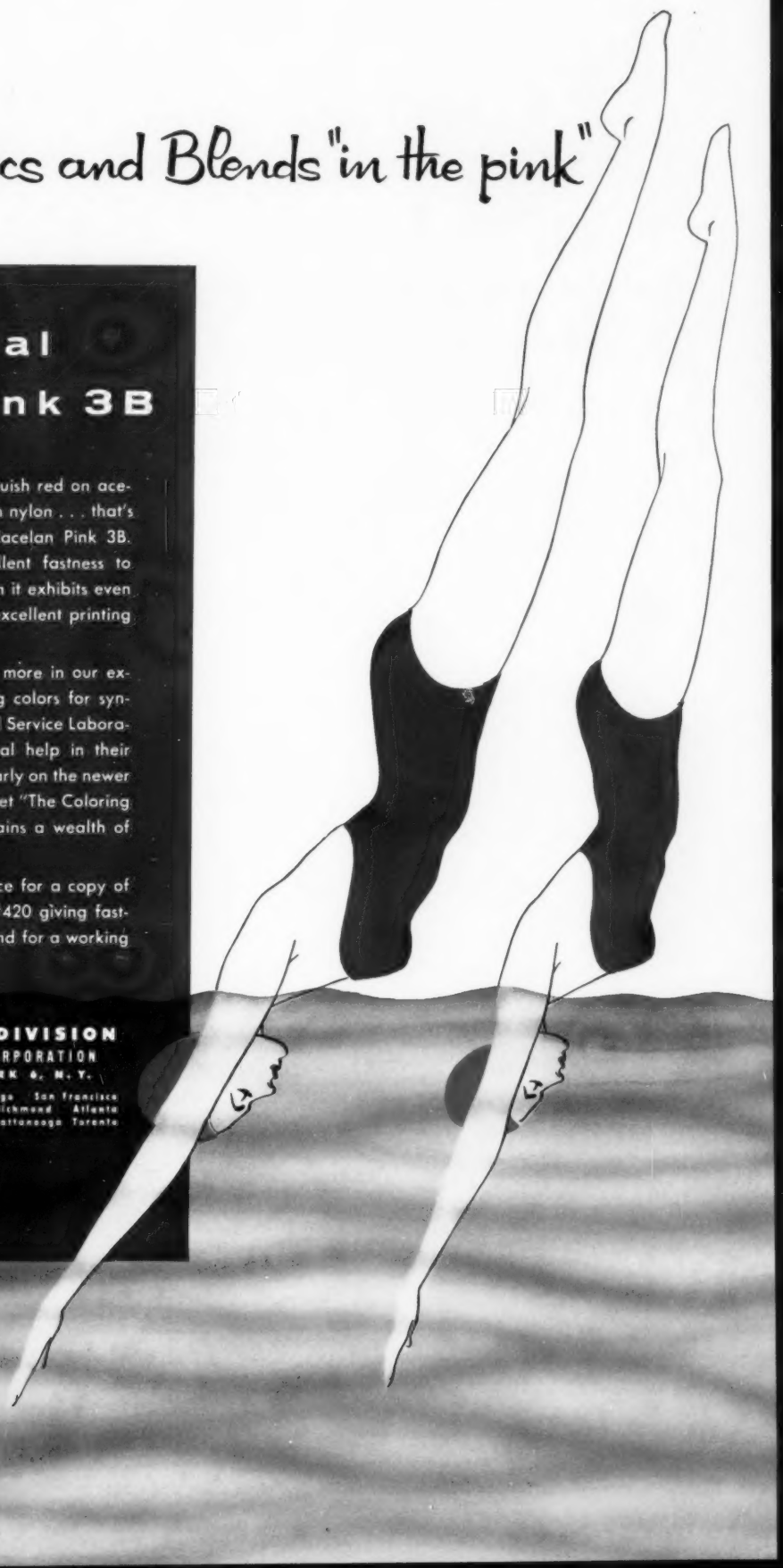
National Nacelan Pink 3B is one more in our expanding line of dyes and printing colors for synthetics and mixtures. Our Technical Service Laboratories can give you very practical help in their selection and application, particularly on the newer synthetics and mixtures. Our booklet "The Coloring of Postwar Synthetic Fibers" contains a wealth of useful information.

Get in touch with our nearest office for a copy of this helpful booklet, for Bulletin #420 giving fastness ratings on Nacelan Pink 3B and for a working sample of this dye.

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

Boston Providence Philadelphia Chicago San Francisco
Portland, Ore. Greensboro Charlotte Richmond Atlanta
Los Angeles Columbus, Ga. New Orleans Chattanooga Toronto

NATIONAL ANILINE Allied Chemical



REYNOLDS ALUMINUM YARN

(with Mylar*)

WITHSTANDS ALL THESE TESTS AT BOILING TEMPERATURES

WITHOUT TRACE OF DELAMINATION, DISCOLORATION, DETERIORATION!

1. Soap **2. Hydrogen Peroxide**
3. Stripper Solution **4. Sulphuric Acid**
5. Sodium Carbonate **6. Strong Bleach**
7. Water...*plus resistance to all common dry-cleaning solvents!*

Reynolds Aluminum Yarn with Mylar* closely approaches the *virtual indestructibility of Mylar film itself*. Reynolds, pioneer in the use of this DuPont film, has perfected new adhesive and laminating techniques which alone make this yarn possible. It is exclusive with Reynolds. For full details, call any Reynolds Sales Office (all principal cities). Or write to Reynolds Metals Company, General Sales Office, Louisville 1, Kentucky. Canadian Representative: Yarntex Corp., Ltd., Montreal.

REYNOLDS ALUMINUM YARN

The Glamour Gleam in Fine Fabrics
...by the Makers of Reynolds Wrap

*DUPONT TRADE MARK FOR ITS POLYESTER FILM

FROM WICA

The Truth about 'Wash and Wear'

The public wants more and more *wash and wear* fabrics. It's a dynamic, exciting concept, and the public is buying.

Like many other textile innovations, *wash and wear* has its pitfalls. The public welcomes freedom from the ironing board, but it doesn't want to be asked to wear shapeless, hot, clammy, baggy clothing.

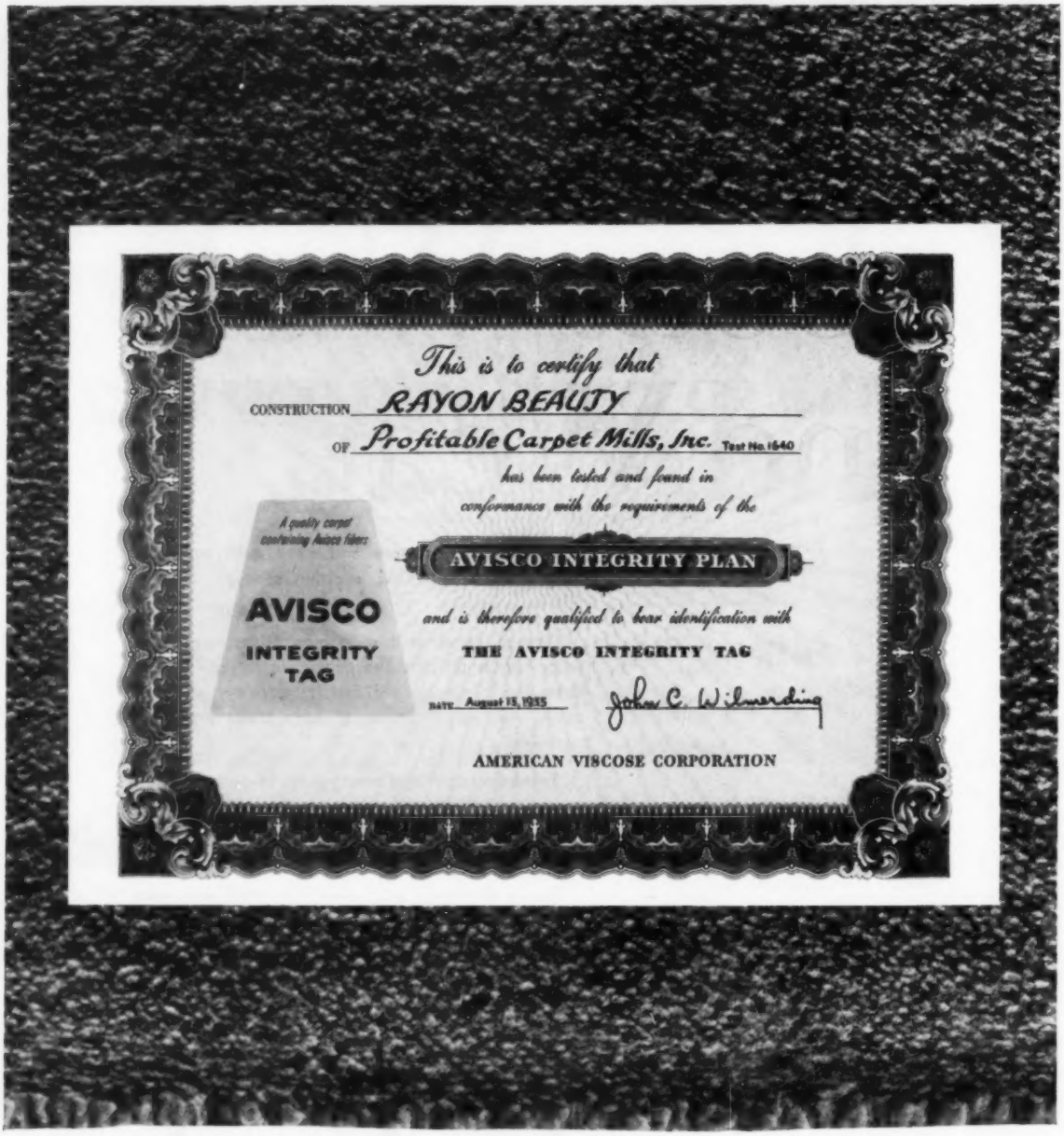
There are right and wrong ways to give fabrics a *wash and wear* quality. No one "patent medicine" exists to do this job. There are no shortcuts, no absolutes in the *wash and wear* field.

Sound chemistry can solve any *wash and wear* problem. But the plain truth is, each fabric and each use is a separate problem. As a basic manufacturer of products required for *wash and wear*, Wica has seen *wash and wear* assignments for years in its own laboratories. Wica has licked every problem so far. May we do the same for you?

WICA

DIRECT INQUIRIES TO: WICA CHEMICALS, INCORPORATED • OLD CONCORD ROAD • CHARLOTTE, N. C.

How the AVISCO® Integrity


This is to certify that
CONSTRUCTION RAYON BEAUTY
OF Profitable Carpet Mills, Inc. Test No. 1640
has been tested and found in
conformance with the requirements of the
AVISCO INTEGRITY PLAN
and is therefore qualified to bear identification with
THE AVISCO INTEGRITY TAG
DATE August 15, 1955
John C. Wilmerding
AMERICAN VISCOSE CORPORATION
A quality carpet containing Avisco fibers
AVISCO
INTEGRITY
TAG

This is the certificate awarded to all rayon carpeting which meets or exceeds the minimum standards established for the Avisco Integrity Plan. This means strict control of pile fiber, pile weight and density, color-fastness and construction.

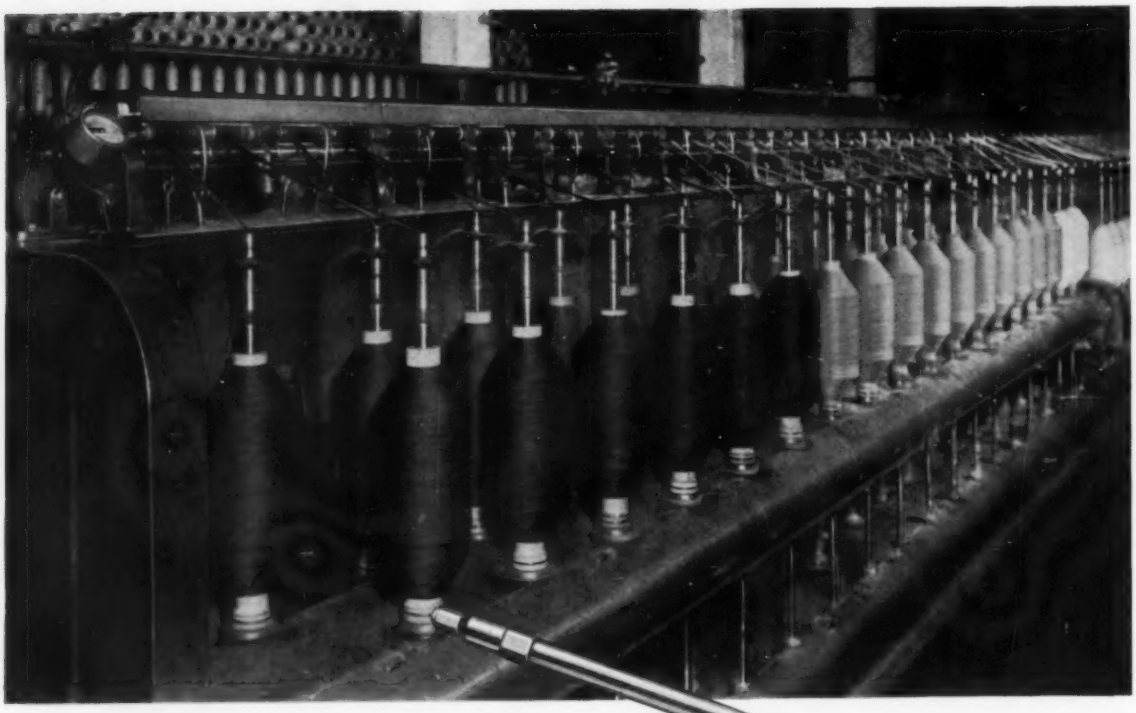
The award of this certificate is based on development work carried out by the world's largest rayon research laboratory at Marcus Hook, Pa.

Plan helps sell carpets

This is the tag that flags the customer at point of sale. It tells customers two important facts: 1, that the carpet contains Avisco fibers, used properly, and 2, that the carpet meets Avisco construction standards and represents quality that can be trusted, as described in Avisco national advertising.

It is a boost for everyone—retailer, distributor and manufacturer—when carpeting carries this important tag. A list of approved constructions is mailed monthly to all carpet retailers. A booklet about the Integrity Plan is also available. For copies of either list or booklet, call LA 4-7200 or write:

AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, N. Y.



Cuts Oil-Drag!

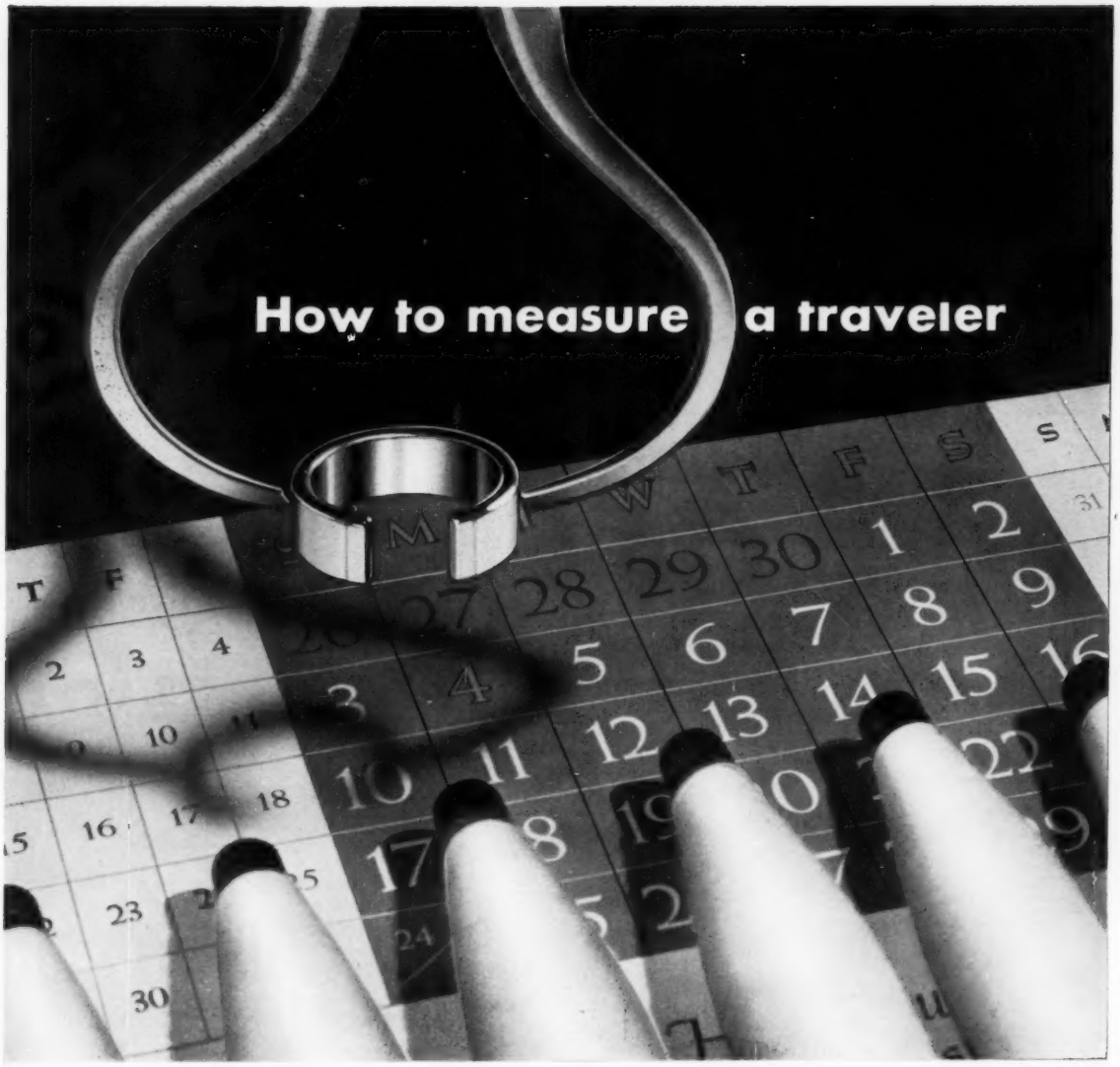
You can cut oil-drag in your spindles by switching to lighter-bodied Sinclair LILY WHITE Oils! These highly refined, extra light colored oils cut power requirements, cut oil consumption, and reduce bolster wear. In this way, LILY WHITE Oils save you money, reduce maintenance needs, and prevent needless interruptions in production.

Moreover, you can also use Sinclair LILY WHITE Oils for superior needle lubrication. The light color means that the problem of staining is eliminated. Needles last longer too!

Sinclair LILY WHITE Oils are available in seven grades – four grades in a straight mineral oil, and an additional three grades with additives for supreme protection against wear and rust. A Sinclair Lubrication Engineer will be happy to make recommendations to meet your *particular* problem. There's no obligation. Just contact your local Sinclair office or write Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

SINCLAIR LILY WHITE

SPINDLE AND NEEDLE OILS



Measure a traveler by days of trouble-free service, and by pounds of first-quality yarn delivered. Travelers vary widely by this test, even though they *look* alike and meet dimensional specifications.

Under *any* conditions, you can be sure of maximum production per traveler when you rely on Victor experience and quality control.

That's the reason why Victor Travelers are chosen for over 12,000,000 spindles. Mill men everywhere find that Victor quality pays off, consistently, in longer traveler life . . . with fewer ends down . . . at higher spinning and twisting speeds.

A Victor Service Engineer will help you select Travelers that measure up to maximum production on any yarn you are running. Write, wire, or phone for prompt service.

Keep a Step ahead with

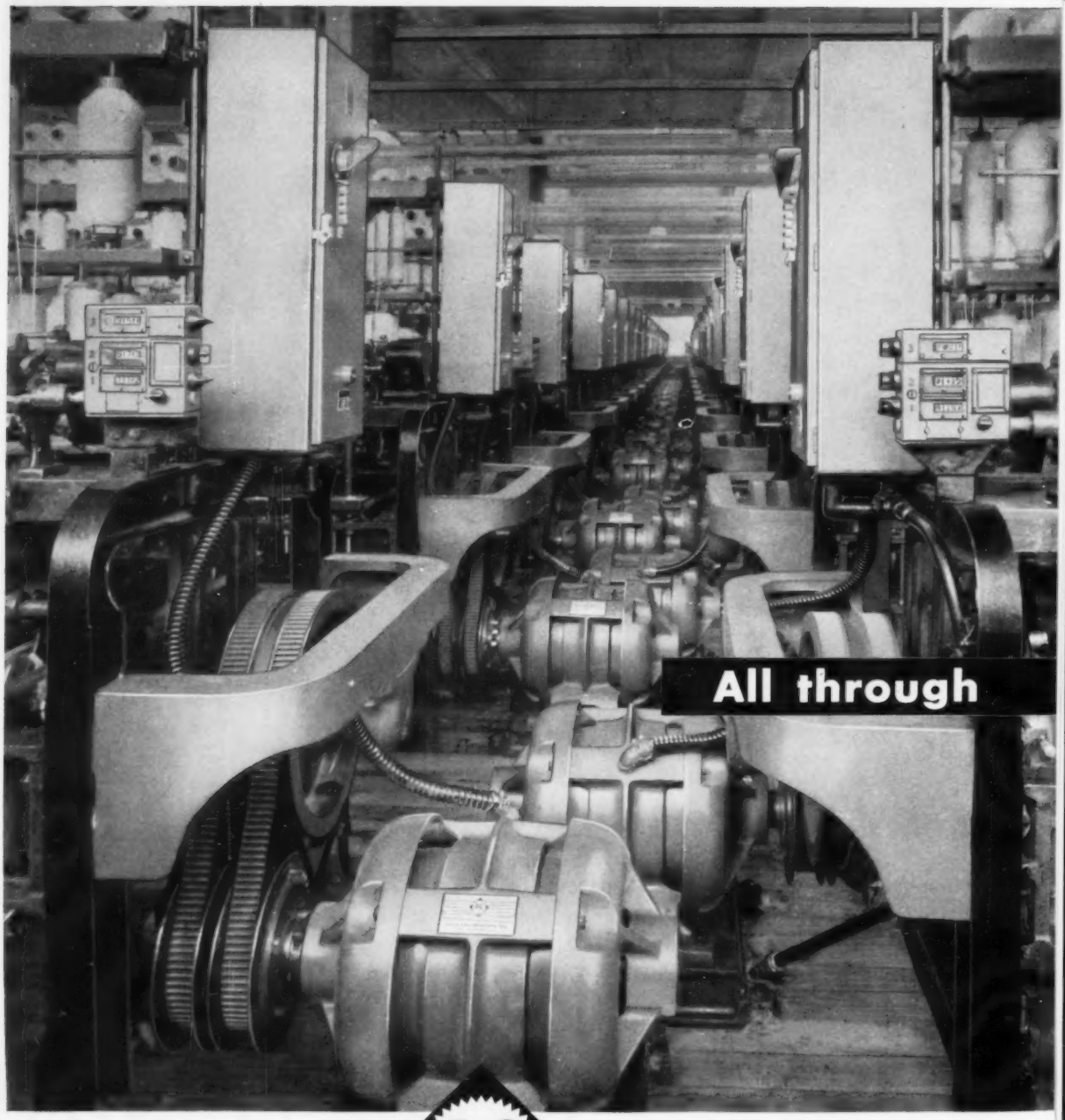
VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . 20 Mathewson Street . . . . . Tel. DExter 1-0737

GASTONIA, N. C. . . . . 914-916 East Franklin Ave. . . . Tel. UNiversity 5-0891

There's MORE — PRODUCTION in your mill with— ALLIS-



A-C ALLIS-CHALMERS

ALLIS-

CHALMERS Textile Drives

Quick-Clean Motors and *Texrope* Drive equipment are designed to work as a cost-cutting team

• From power line to driven shaft, Allis-Chalmers textile drive equipment is designed to increase your quality and production . . . cut your maintenance costs.

Quick-Clean motors and *Texrope* drive equipment are all specially tailored to give maximum efficiency in a specific part of the mill. In the card room, on the spinning frame, for the loom drive, in roving and weaving, these Allis-Chalmers products have proven their ability.

Less Motor Stoppage

Quick-Clean motors are engineered for trouble-free service in humid, lint-laden atmospheres. Combination of wide-open design, streamlined interior surfaces, and smooth powerful fans eliminates lint accumulation. The result — Allis-Chalmers motors run cool.

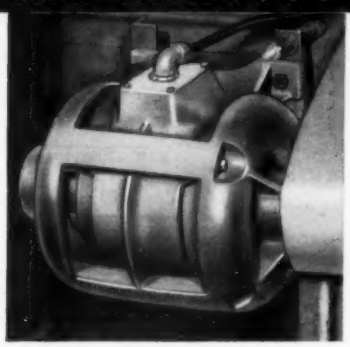
Fast Speed Adjustment

Vari-Pitch sheaves, member of the famous *Texrope* drive family, provide in seconds the exact speed needed for any yarn number.

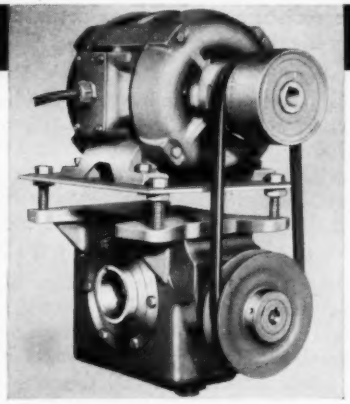
Whether you're ordering motors and *Texrope* drives separately or as components of new machinery, A-C engineers are ready to help with your requirements. Contact your nearby Allis-Chalmers sales office or distributor, or write Allis-Chalmers, General Products Division, Milwaukee 1, Wisconsin. A-4923

Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

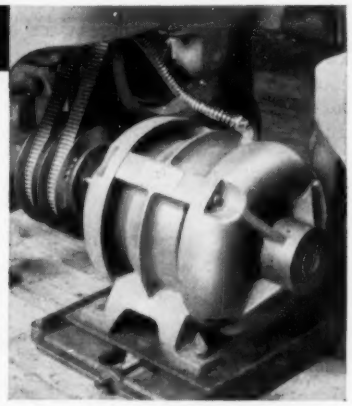
the mill . . .



Roving —Special, slow, smooth acceleration characteristics are built into this *Quick-Clean* motor to provide slow starts, fine jogging — produce uniform roving.



Carding — Compact card drive package with *Quick-Clean* motor and *Texrope* drive eliminates overhead shafts and belts—solving problems of lighting and cleanliness.

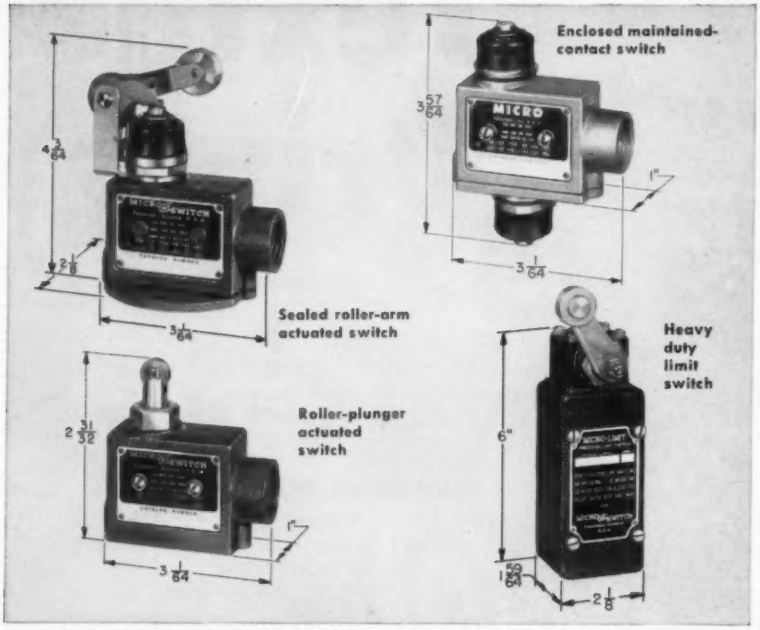


Spinning—*Texrope* drives link this *Quick-Clean* motor to the frame. Open air passages and powerful fans sweep dirt and lint through and out of the motor.

CHALMERS

MICRO *precision switches*

...THEIR USE IS A PRINCIPLE OF GOOD DESIGN



These MICRO precision switches make textile operations safer—more productive

Whether you are a manufacturer of textile equipment or a plant operating man it will pay you to know ALL about MICRO precision switches.

The switches shown here were selected by plant engineers to make the operations shown at the right safer, more automatic and more productive. They are but a few of the many MICRO precision switch types now in use in hundreds of textile plants.

Sealed Roller-Arm Actuated Switch: For use with mechanically operated cams or slides. Elastomer boot protects the switching unit against effect of liquids, dust or other foreign substances. Roller arm is field adjustable through 360 degrees horizontally and 225 degrees vertically.

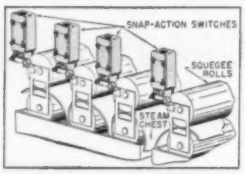
Enclosed Maintained-Contact Switch: For applications which require sustained contact after the actuating force has been released. A reset plunger enables the switch to be reset for succeeding operations. Elastomer boot prevents entrance of dust or moisture through the actuating mechanisms.

Roller-Plunger Actuated Switch: Designed for operation by cams or slides whose approach is in the same direction as the longitudinal axis of the switch. Rugged overtravel mechanism insures accurate repeat ability of the enclosed switching unit even when subjected to continual impact.

Heavy Duty Limit Switch: Ruggedly housed to withstand high humidity and linty atmospheres of textile operations. Roller arm actuator is field adjustable through 360 degrees at intervals of 0.4 degrees to any of 870 positive lock positions.

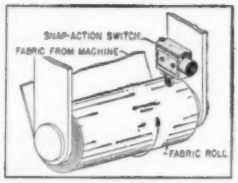
For complete information on switches for textile equipment write for the name of the distributor nearest you. MICRO SWITCH field engineering is available at your nearest branch office.

Saves Fabric and Production Loss on Bleach Range



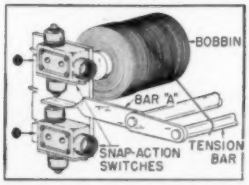
MICRO heavy duty limit switches are installed on bearing which raises—with roll. As cloth raises the switch stops the range, preventing fabric and production losses.

Controls Roll Size on Circular Knitting Machine



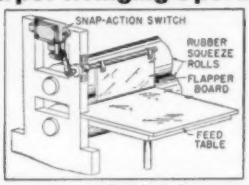
Roller-plunger actuated switch is operated by the roll when the fabric being made or processed reaches the desired roll size. Switch then stops the machine automatically.

Keeps Proper Yarn Tension for Knitting Operation



Two enclosed maintained-contact switches are used to prevent breakage of yarn due to either too high or too low tension. In either case Bar A contacts one switch or the other and shuts off the machine.

Protects Operator's Hand in Carpet Wringing Operation



Roller-arm actuated switch is operated by cam to shut off rolls in case baffleboard is pushed forward enough to catch operator's hand in the rolls. Carpet is positioned in the nip of the rolls by hand but machine will not operate until hands are withdrawn.

SEND FOR CATALOG 83
For information on a wide variety of enclosed switches.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

In Canada, Leaside, Toronto 17, Ontario • **FREEPORT, ILLINOIS**

Many Hands

To Help You Find the Answers to Bleaching Problems

Just a phone call to one of Du Pont's textile specialists can bring you prompt, on-the-spot help with any immediate problem. Specific recommendations are compiled in a special report for your use.

This kind of assistance is just one part of Du Pont's *complete* textile bleaching service which includes: fact-filled, authoritative Technical Bulletins on bleaching operations; Special Modernization Service to help with your expansion plans; Confidential Bleachery Survey to help you maintain or improve bleaching efficiency; and Bulk Storage Systems to help you buy and store peroxide in money-saving quantities.

Du Pont supplies top-quality bleaching agents—ALBONE® hydrogen peroxide, SOLOZONE® sodium peroxide, PERDOX® sodium borate perhydrate and sodium perborate tetrahydrate—for uniform bleaching results.

For full details call the Du Pont district office nearest you.

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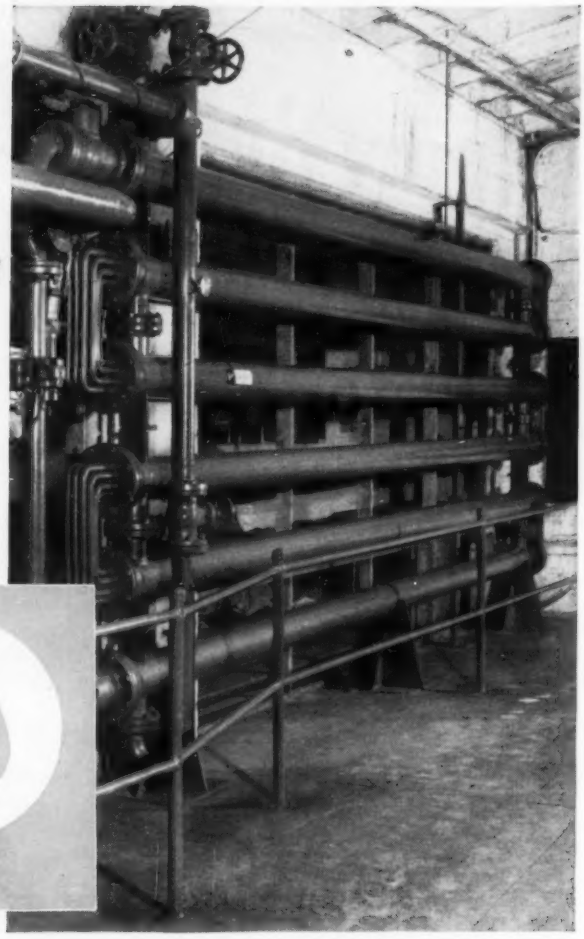
Boston ..... HAncock 6-1714	Chicago ..... INdependence 3-7250	Detroit ..... UNniversity 4-1963	Philadelphia .... KIngsley 5-1900
	Cincinnati ..... PArkway 1-5253	Los Angeles ..... CUmb. 3-2761	San Francisco .. EXbrook 2-6230

DU PONT
REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

ELECTROCHEMICALS DEPARTMENT
E. I. DU PONT DE NEMOURS & CO. (INC.)
WILMINGTON 98, DELAWARE

When your boiler's overloaded . . . a Bready System of Waste Heat Recovery is your ace in the hole



RELIEVING excess boiler loads is only one of many jobs that Bready Systems of Heat Recovery from waste water are being called on to do. When a plant is faced with boiler difficulties, installing a Bready System is like having an "ace in the hole" that pays off by giving the plant the necessary capacity of a new boiler but without its increased fuel requirements, and at much less capital investment. At the same time, the Bready System will reduce the amount of fuel required by the present boiler.

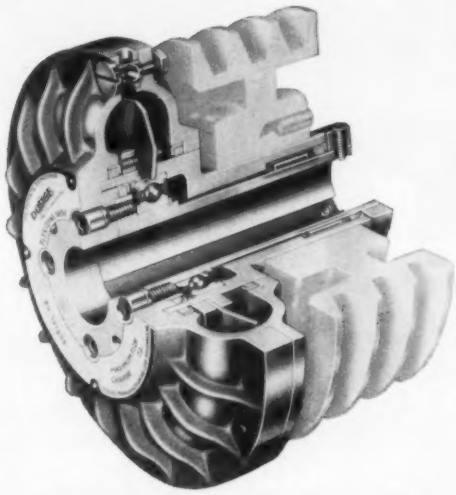
Above and beyond these advantages, a Bready System balances the hot water system by normalizing flow rates. High volume hot water is also uniformly supplied at specific temperatures and fill time is greatly reduced. Maintenance is at a minimum—cleaning of the system is automatic!

Get all the facts on a Bready System as it applies to your plant. Write, wire or phone for complete details, or a free plant survey.

Ludell *Manufacturing Company*

5200 WEST STATE STREET, DEPT. TI MILWAUKEE 8, WISCONSIN

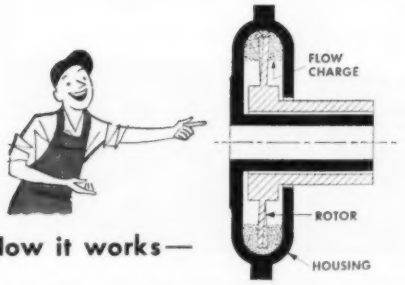
MANUFACTURERS OF BREADY SYSTEMS OF WASTE HEAT RECOVERY



FLEXIDYNE

THE DRY FLUID DRIVE

Revolutionizes Drive Performance on Roving Frames and Cards!



How it works—

The "fluid" in Flexidyne is heat treated steel shot. A measured amount, called the flow charge, is contained in the housing, which is keyed to the motor shaft. When the motor is started, centrifugal force throws the flow charge to the perimeter of the housing, wedging it between the housing and the rotor which transmits power to the load.

After a momentary slip between housing and rotor the two become locked together and achieve full load speed, operating without slip and at *100% efficiency* during the running cycle.

From the textile field—both cotton and wool—come glowing reports on the performance of Flexidyne, the new "dry fluid drive." Flexidyne provides a new and better way to handle drive problems. It gives textile machinery a really *soft* start. It offers protection against shocks and overloads. It saves power. It gives 100% efficiency at full load!

Flexidyne is so simple, operates so dependably, offers so many advantages that you should have the whole story. Call your Transmissioneer —or write us for Bulletin A-640.

DODGE MANUFACTURING CORPORATION
3500 Union Street, Mishawaka, Indiana

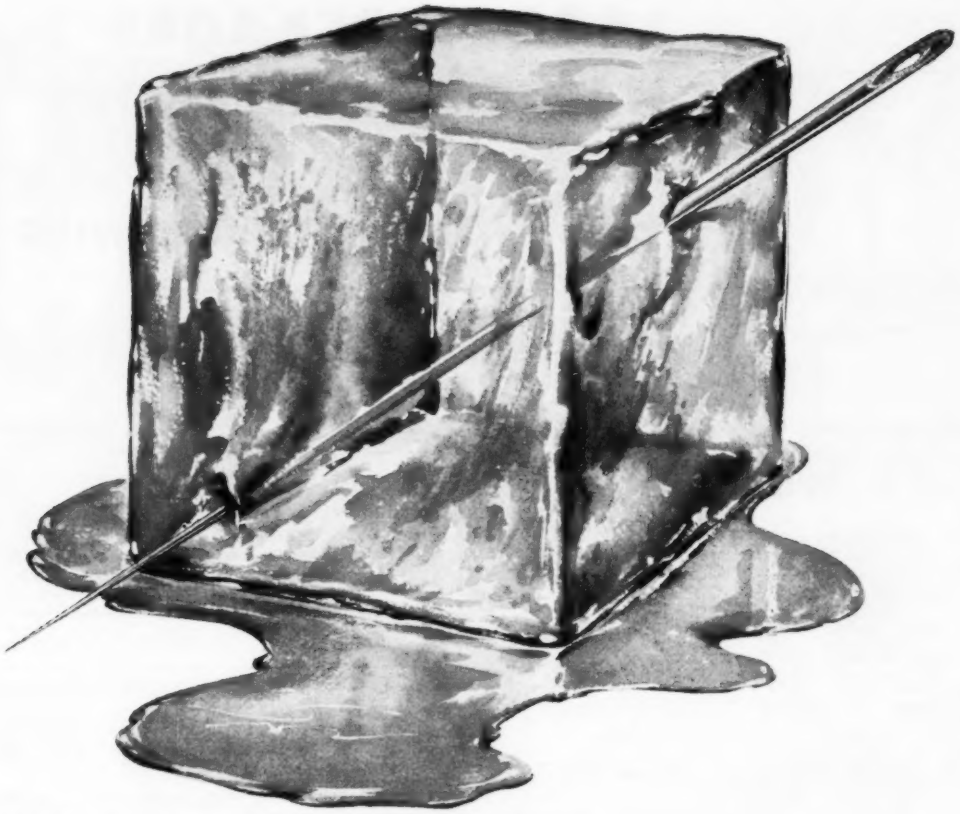
DODGE
of Mishawaka, Ind.

CALL THE TRANSMISSIONEER, your local Dodge Distributor. Factory trained by Dodge, he can give you valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Machinery" in your classified telephone directory, or write us.

Every new fiber developed brings to the textile plant both opportunities and problems. New physical characteristics of the fibers usually require changes in processing equipment. Hundreds of variations have been made in Herr Flyers to accommodate the new yarns. Many special Herr Conical Ring and Traveler combinations have been produced. If you have a spinning or twisting problem — Let us help you.

HERR Manufacturing Company, Inc.
310 Franklin St., Buffalo, N. Y.

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES



NO NEEDLE BURN WHEN YOU SEW WITH

PROFINE-FINISHED FABRICS!

When you sew a Profine-finished fabric, you get protection an ice-cooled needle could not provide. Well-known finishing plants such as *North Carolina Finishing Company* use Profine to assure better sewability for their fabrics.

Profine is a quality finishing agent with some exceptional advantages:
It assures:
Cooler sewing...no needle burn.
Stronger seams.
Higher speed cutting.
Better abrasion resistance.
Faster Production.

It will pay you to specify Profine finishing for *your* threads or yarns or fabrics.

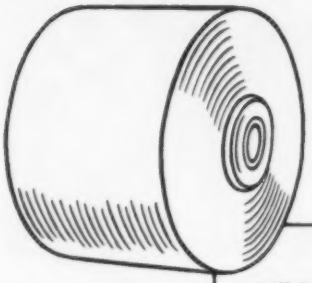
Profine

MADE BY PROCTER & GAMBLE
Textile Finishes Sales Dept. **Cincinnati, Ohio**
Makers of Olate, Proxols, Orvus and Kyro products — for smoother textile processing.

RECOMMENDED BY FIBER MANUFACTURERS • USED BY LEADING FINISHING PLANTS

LARGE PACKAGES HAVE ADVANTAGES

in the steps which FOLLOW THE SPINNING

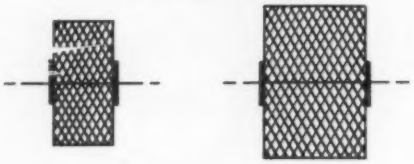


SPINNING

12" Bobbin — 3" Ring — 12 oz. Bobbin
= 1.33 Bob/lb. — 15,000 Yds.
9" Bobbin — 2" Ring — 3.85 oz. Bobbin
= 4.16 Bob/lb. — 5,000 Yds.

3 TIMES As Much Yardage On Bobbin

SPOOLING

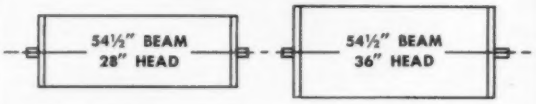


TYPE "C" CHEESE	TYPE "D" CHEESE
2.38 LBS.	6.00 LBS.
48,000 YDS.	120,000 YDS.

2.5 TIMES

AS MUCH YARDAGE PER CHEESE

WARPING



28" BEAM	36" BEAM	40" BEAM
530 LBS.	875 LBS.	1,050 LBS.
24,000 YDS.	40,000 YDS.	40,000 YDS.
445 ENDS	441 ENDS	529 ENDS
BEAMS PER CHEESE	BEAMS PER CHEESE	BEAMS PER CHEESE
TYPE "C"-2 TYPE "D"-5	TYPE "C"-1 TYPE "D"-3	TYPE "C"-1 TYPE "D"-3

SLASHING

Assuming 1,200 yds. per Loom Beam

28" BEAM	36" BEAM	40" BEAM
20 Loom Beams Per Set	33 Loom Beams Per Set	39 Loom Beams Per Set

Average Slasher Creelings per 120-hr. Week

5.68	3.67	3.16

TWISTING

2.38 LB. CHEESE	6.00 LB. CHEESE
48,000 YDS. PER CHEESE	120,000 YDS. PER CHEESE

2.5 TIMES

AS MANY BOBBINS CAN BE TWISTED PER CREELING

Note: 24s Yarn Assumed in All Comparisons

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. — GREENVILLE, S. C., U.S.A. — MANCHESTER, ENGLAND — MUNICH, GERMANY

INDIA	MEXICO	BRAZIL	JAPAN	PAKISTAN	PAKISTAN
Batliboi & Company Forbes Street, Fort Bombay, India	J. Rabasa Isabel la Catolica 45-913 Apartado 7348 Mexico D.F., Mexico	Quimanil S.A. Anilinas e Representacoes Rua Glicerio 537/547 Caixa 5658 e 3431 Sao Paulo, Brazil	Do-Yei Shoji Kabushiki Kaisha No. 7 Awajimchi 1-Chome Higashi-ku Osaka, Japan	Associated Agencies (M'cr.) Ltd. Piccadilly House 11 Piccadilly Manchester 1, England	Associated Agencies (M'cr.) Ltd. 27 Kothari Building Napier Road Karachi 2, Pakistan

MAKE YOUR BALING A *Profitable* OPERATION

with dependable

LOGEMANN BALING PRESSES

Open balers for finished goods may be hydraulic or power-driven. Give platen dimensions required, maximum height of pile to be compressed, number of bales per hour, when requesting information on open balers.

Tell Us Your Baling Problems

That's the best way to get the right answers to low-cost time-saving baling. During our sixty years of building balers for the textile industry we've solved many a baling problem for mill owners. Our engineers know how to make baling operations pay their own way in time and labor-savings, in speedier, more reliable handling of bales, in lower maintenance cost. Many Logemann balers have been in profitable operation since the turn of the century—evidence of the ruggedness, durability, and long service life of Logemann baling presses.

In the interests of better baling operations in your plant, find out what Logemann balers can do for you. Tell us what your specific problem is. We'll gladly show you how it can be answered in terms of better bales at lower costs and make a specific recommendation based on your requirements. Write for information today.

Box balers for waste may be obtained in either the hydraulic or power-driven type. Mention the kind of waste to be baled, how much in how many hours, the preferred size or weight of bale when inquiring about box balers.

LOGEMANN BROTHERS CO.

3102 West Burleigh Street • • • Milwaukee 10, Wisconsin

Size fluidity is always right... from cooking to application with

EAGLE® Thin-Boiling Starches

Higher production rates of modern slashers make the uniform fluidity of Eagle Starches vitally important.

From size kettle to application the viscosity and strength of Eagle brand starches is uniform, assuring you top weave room performance.

Despite continued heating, agitation and pumping, these acid-modified, thin-boiling starches consistently give the precise size fluidity you need in a modern slashing operation.

Eagle brand starches produce a uniform size mixture that penetrates the yarn evenly. Where you want more weight of size, or a thicker size film, try Eagle brand starches. They maintain their viscosity and give you a maximum of size concentration. Available in a full range of fluidities, try Eagle brand starches.

Ask the man from Corn Products. Ready to assist you in any way, he has at his disposal the most complete laboratory and technical facilities in the industry. The man from Corn Products can also provide engineering service for the installation of bulk-handling equipment. Write or phone for information, there is no obligation.

1906 • **50th ANNIVERSARY** • 1956
CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York 4, N. Y.

Corn Products makes these famous starches for the textile industry—
Eagle • Foxhead • Globe • Hercules • Ten-O-Film • Globe Dextrines & Gums

National Spinning Company, Washington, North Carolina
New Mill making synthetic and worsted yarns. View shows process from pindrafters through roving and spinning.

LOCKWOOD GREENE PROJECTS IN . . . . .

WOOLEN and WORSTED

Lockwood Greene has completed over 500 engagements in the woolen and worsted field, and in the entire textile industry projects valued at over three quarter billion dollars.

Continuous management services from site selection to plant completion.

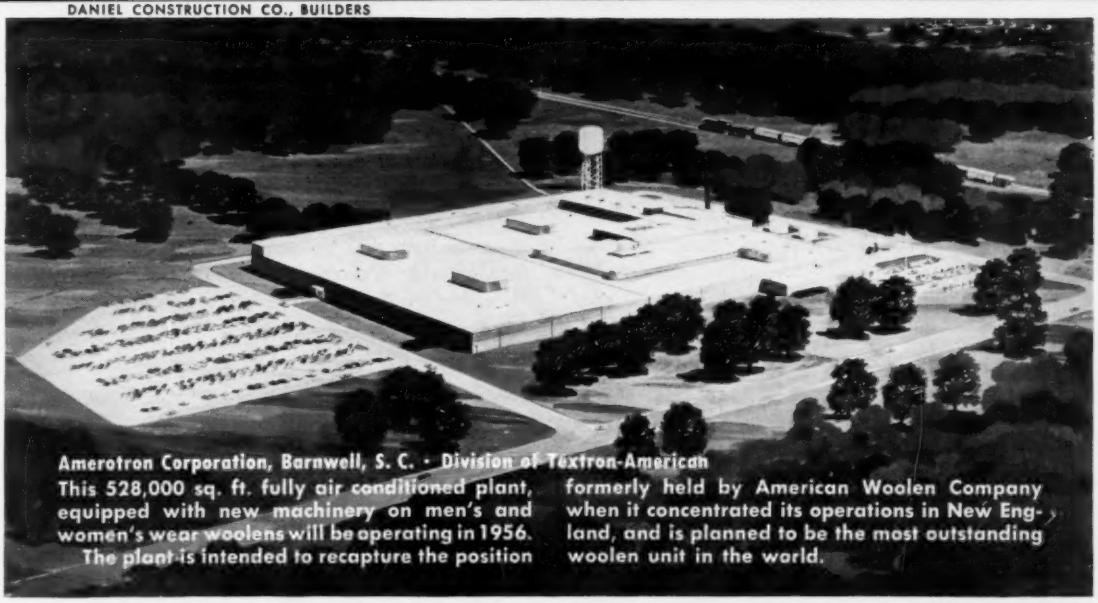
LOCKWOOD GREENE
ARCHITECTS — ENGINEERS

BOSTON 16, MASS. 316 Stuart Street · NEW YORK 17, N. Y. 41 East 42nd Street · SPARTANBURG, S. C. Montgomery Building

OVER A CENTURY OF INDUSTRIAL PLANT EXPERIENCE

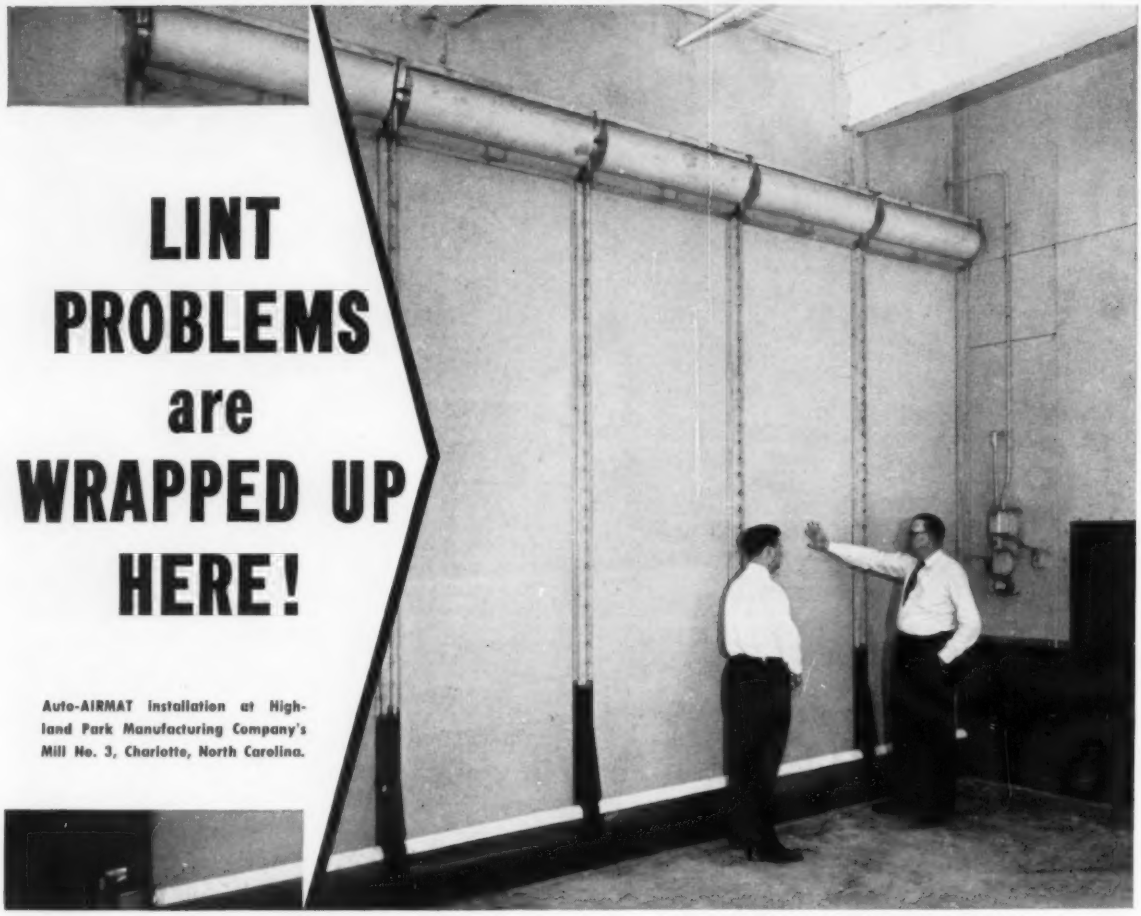
BROCHURE AVAILABLE UPON REQUEST

DANIEL CONSTRUCTION CO., BUILDERS



Amerotron Corporation, Barnwell, S. C. · Division of Textron-American
This 528,000 sq. ft. fully air conditioned plant, equipped with new machinery on men's and women's wear woolens will be operating in 1956. The plant is intended to recapture the position formerly held by American Woolen Company when it concentrated its operations in New England, and is planned to be the most outstanding woolen unit in the world.

LINT PROBLEMS are WRAPPED UP HERE!



Auto-AIRMAT installation at Highland Park Manufacturing Company's Mill No. 3, Charlotte, North Carolina.

Air Conditioning system designed by J. E. SIRRINE & CO., Greenville, S. C. Installed by WHITE AND COMPANY, Charlotte, N. C.

Auto-AIRMAT Installation Eliminates Lint Automatically At Highland Park Plant

LINT never gets a chance to foul up air washers here! AAF Auto-AIRMAT lint filters stand guard on two air conditioning systems supplying 111,000 cfm of air to spinning and carding rooms.

The Auto-AIRMAT is the *only* filter designed specifically for lint. Airmat filtering material, installed in roll at top of unit, moves down the face of the filter and is re-rolled at bottom with its lint load. As the curtain collects lint, new material automatically unrolls to keep resistance at proper level. And collected lint is wrapped up in a handy disposable roll!

If you've got a lint problem, get the facts on the *lint filter*—AAF's Auto-AIRMAT. Call your local American Air Filter representative, or write direct for Bulletin 234.

AAF herman nelson

American Air Filter
COMPANY, INC.
275 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

Herman Nelson Unit Blowers

Herman Nelson Propeller Fans

BETTER AIR IS OUR BUSINESS

Illinois Steam Heating Specialties

Air Filters and Precipitators

Service

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NEW UP-TO-THE-MINUTE RESEARCH LABORATORIES

FIELD LABORATORIES

FAST, EXPERT COUNSEL ON YOUR PROBLEMS

Products

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- WAXY R-GUM No. 10
- WAXY FILM No. 75
- PRINTEX No. 200
- HUBCO No. 30 F.L.

...make it EASY to IMPROVE textile sizing, printing, finishing...

OK SERVICE—Top flight textile research men working with the finest of modern laboratory facilities develop better textile starches for you . . . carefully control formulae uniformity. A fleet of Hubinger planes bring OK field laboratories and expert textile technicians right to your door . . . and fast.

OK PRODUCTS—A wide range of profit proven products provide an economical means for improved sizing, printing and finishing. SPECIAL OK TEXTILE STARCHES are *tailor-made* to meet your needs.

Let **OK SERVICE** and **OK PRODUCTS** help you save time, improve quality and profit more. Contact the OK representative nearest you . . . you'll find him OK too.

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Manufacturing better products from corn for 75 years.

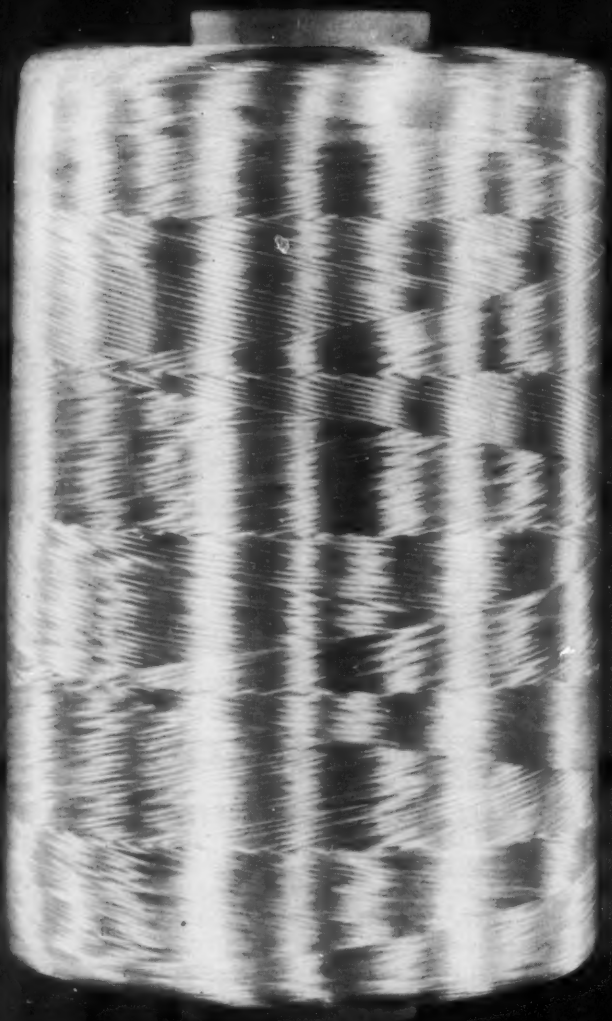
THE HUBINGER COMPANY

1881 1956

KEOKUK, IOWA

HUBINGER — QUALITY PRODUCTS — 75 YEARS — FROM CORN

NOW, brought to you



caprolan*

NYLON HEAVY YARNS

Allied Chemical's new Caprolan heavy yarns are of particular interest to makers of:

Heavy Duck • Industrial Slings • Fire Hose • Cords & Braids
Upholstery Fabrics • Webbings • Conveyor Belt Fabrics
Rope & Twine • Tapes & Belts • Carpets & Rugs

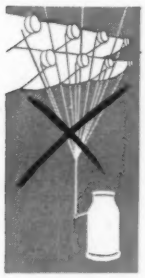
* TRADE-MARK

exclusively by Allied Chemical...Caprolan*!

Nylon Heavy Yarns

A Completely New Class of Durable Textile Yarns Available in 2,100, 2,500, 5,000 and 15,000 Denier

Mills report these advantages:



1. Cuts Plying Costs! Supplied in the total deniers you need, Caprolan nylon heavy yarns are engineered to your specifications without plies. No need to inventory costly finer deniers. Heavy yarns with nominal twist are supplied on knotless 10-pound parallel nonreturnable tubes.

2. Cuts Heat-Setting Cycles! Another money-saving advantage of these heavy yarns is that heat-setting cycles can be materially shortened because of Caprolan's workability with heat.

3. Minimizes Dyeing Problems! Heavy nylon constructions are much easier to dye when Caprolan heavy yarns are used. Allied's new fiber has a remarkable affinity for all classes of dyestuffs.

Other Heavy Yarns Can Be Engineered to Your Specifications In a Range from 2,000 to 50,000 Denier!

Now, from Allied Chemical—an important new tool for the textile industry—nylon heavy yarns engineered to your specifications! This completely new class of durable textile yarns eliminates need to ply multiple ends of finer deniers to achieve a higher total effect.

Caprolan heavy yarns are versatile, too. Whether you make duck, webbings, carpet, upholstery or any other type of heavy nylon fabric these heavy yarns will find a place in your mill. They are especially effective where toughness and high impact strength are important considerations.

These nylon heavy yarns are made exclusively by Allied Chemical. In addition to all of the known qualities of nylon, Caprolan heavy yarns offer such plus values as affinity for all classes of dyestuffs, *deep* dyeing and uniform level shades.

These new heavy yarns already are in commercial use in important mills and evaluation programs are under way in many others. If you would like more information, technical assistance, or would like to evaluate Caprolan heavy yarns in your own mill, write:

Fiber Sales and Service

NATIONAL ANILINE DIVISION

Allied Chemical & Dye Corporation

261 Madison Ave., New York 16, N. Y.

Branch Offices—Jefferson Standard Building, Greensboro, N.C., 200-204 S. Front St., Philadelphia 6, Pa., 15 Westminster St., Providence 3, R.I.

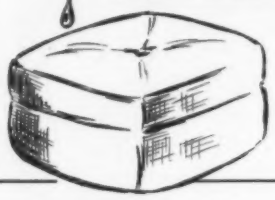
SERVING THE TEXTILE INDUSTRY SINCE 1879

Don't Junk

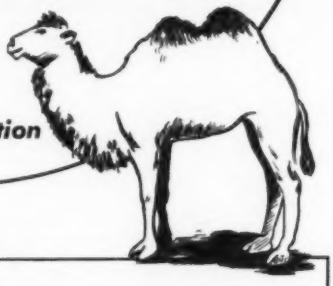
Worn Top Rolls

Your worn top rolls can be the basis for the best and longest wearing rolls you ever used. If you are skeptical about our "better-than-new" claims for Ideal Specialloy Reconditioned Top Rolls, here are some things we can prove.

Ideal Specialloy surfaces have a cushioning action . . . tough—but oh so gentle . . . on saddles and cap bars.

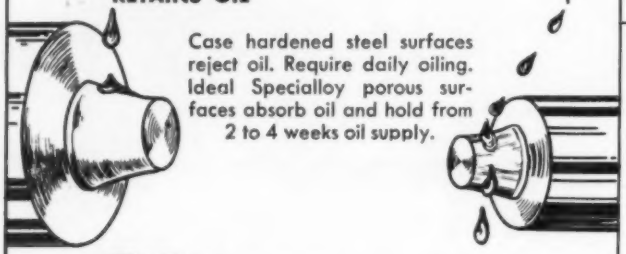


Goes Weeks Without Attention



RETAINS OIL

Case hardened steel surfaces reject oil. Require daily oiling. Ideal Specialloy porous surfaces absorb oil and hold from 2 to 4 weeks oil supply.



SPECIALLOY SAVES MONEY

Specialloy Reconditioning means longer life for top roll assemblies, less oiling labor, and sharply reduced seconds . . . a worthwhile net saving to you.

NO OIL SPOTS

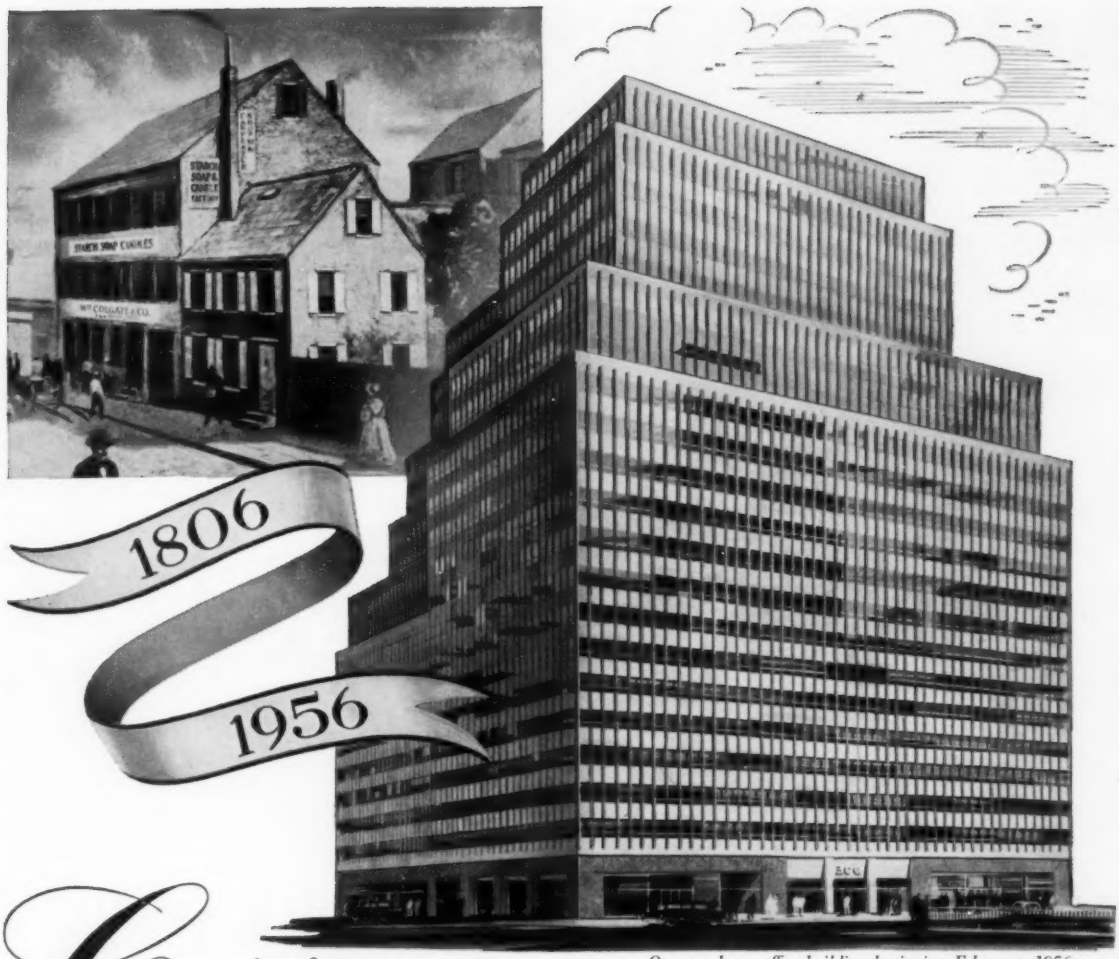
The oil stays on the Specialloy bearing parts and off of the yarn. Oil seconds are practically eliminated.

Don't junk your worn top rolls. Let us show you why Specialloy Reconditioning will give you the best top rolls obtainable. Let us recondition a half dozen of your worn rolls to prove our claims.

Ideal Machine Shops, Inc.

Bessemer City, N. C.

Continuous Service to Textile Mills Since 1924



Our new home-office building beginning February, 1956.

Celebrating—

150 Years of Service to America's Homes and Industries

This year marks the 150th Anniversary of our modest beginnings. For it was in the year 1806 that young William Colgate, the founder of our Company, opened his first soap-making factory on Dutch Street in New York City.

History has recorded sweeping changes in this span of 150 years—years charged with drama and excitement. Against this ever-changing background, the Colgate Company has reached across the seas and around the world, touching the lives of millions!

We of Colgate-Palmolive Company are grateful to all who have contributed to our success. And we pledge our continuing efforts to deserve the confidence of everyone we meet and do business with in the years ahead.

The Colgate-Palmolive Company

300 Park Avenue, New York 22, New York

Atlanta 5, Ga. • Chicago 11, Ill. • Kansas City 5, Kans. • Berkeley 10, Calif.

★ ★

a combination . . . for game!

laminated plastics . . . a combination of properties for trouble-shy designers

When a man goes a-hunting for a material for a specific application, he wants one that satisfies his own combination of property requirements . . . *and is easy to machine.* Synthane laminated plastic is just the material—*plenty* of good mechanical, electrical, electronic and chemical properties . . . combined with excellent machining and fabricating characteristics.

LIGHT WEIGHT

CHEMICAL RESISTANCE

IMPACT STRENGTH

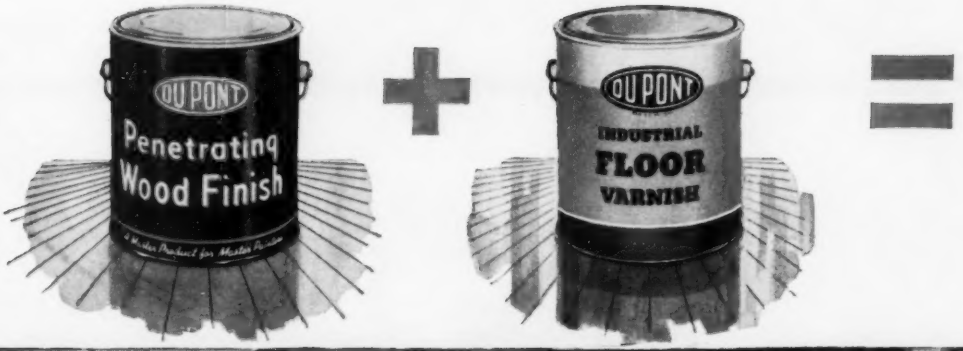
DIMENSIONAL STABILITY

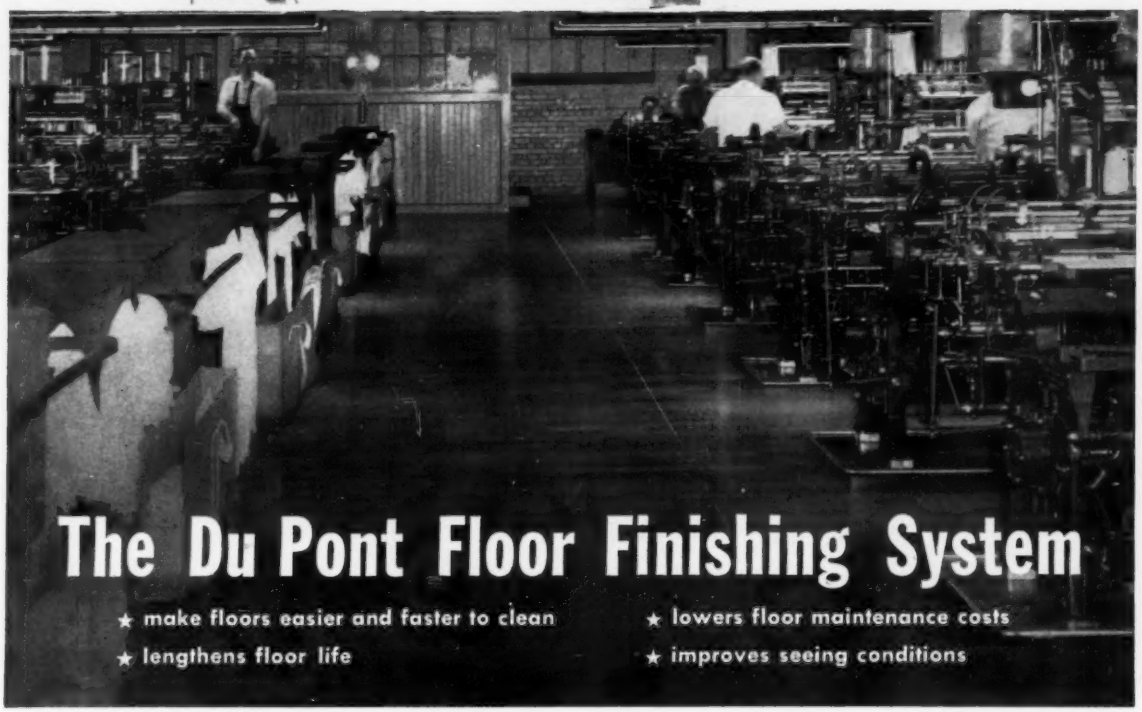
This spinning bucket cover **illustrates the application advantages of Synthane molded-laminated plastic. Parts molded of this widely used engineering material are supersmooth . . . light weight . . . strong . . . hard . . . dimensionally stable . . . resistant to wear, heat, oils and corrosive solutions of many types. Little or no machining is required. Parts are precision-molded to exact shape and size. Other uses for Synthane in the textile industry include bobbins, textile rollers, hosiery turning and examining forms, redraw caps and pirns.**

. . . send for complete catalog and fabricating data.

SYNTHANE

SYNTHANE CORPORATION, 9 RIVER ROAD, OAKS, PA.





The Du Pont Floor Finishing System

★ make floors easier and faster to clean
★ lengthens floor life
★ lowers floor maintenance costs
★ improves seeing conditions

Mill and plant owners everywhere are enthusiastic about the many advantages offered by Du Pont's Industrial Floor Finishing System. Developed after years of research, this system consists of a first coat of Du Pont Penetrating Wood Finish that thoroughly seals the wood, and a finish coat of high-gloss Du Pont Industrial Floor Finish.

It's an unbeatable team of floor finishes that's bound to give your floors extra protection against hard wear and high humidity.

Practical experience in hundreds of plants has shown the value of the Du Pont Floor Finishing System in reducing over-all maintenance costs, and in providing better seeing conditions and improved housekeeping. To discover what the Du Pont Industrial Floor Finishing System can do for *your* floors, mail the coupon today.

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Industrial Finishes

Chemically engineered to do the job better

Send for Free Literature

E. I. du Pont de Nemours & Co. (Inc.)
Finishes Division, Dept. T-64, Wilmington 98, Delaware

Gentlemen:
Please send me, without obligation, information on the Du Pont Industrial Floor Finishing System.

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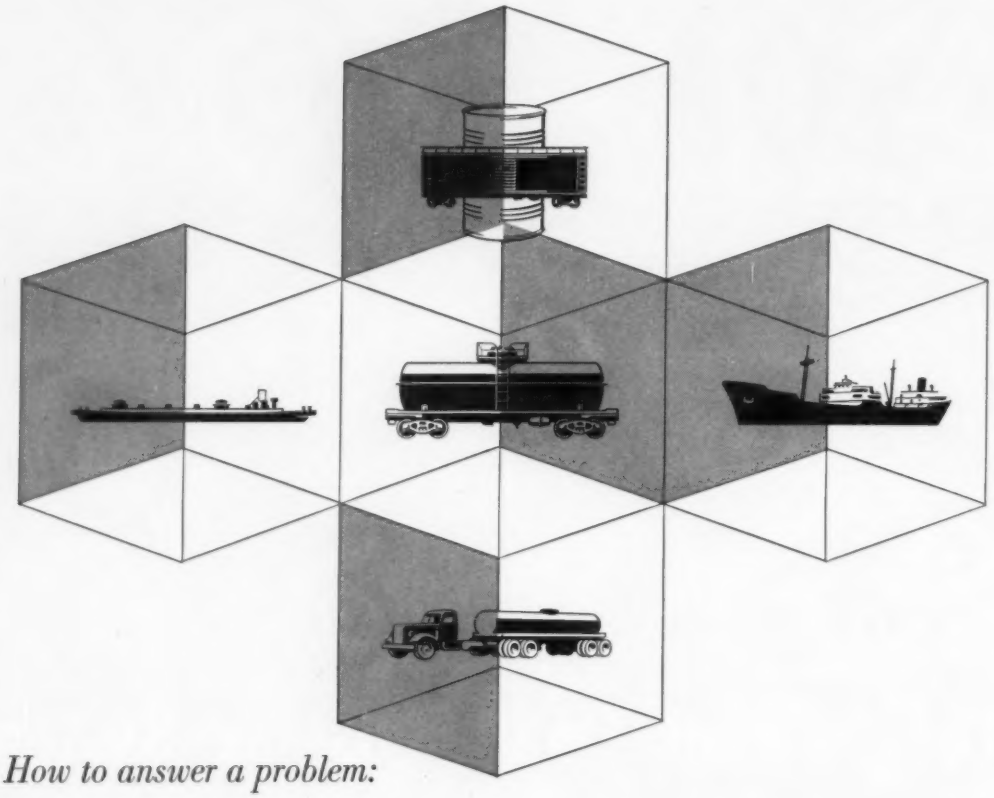
Address_____

City_____ State_____

DOW



How to answer a problem:

there's *no illusion* to what you get when your CAUSTIC comes from DOW

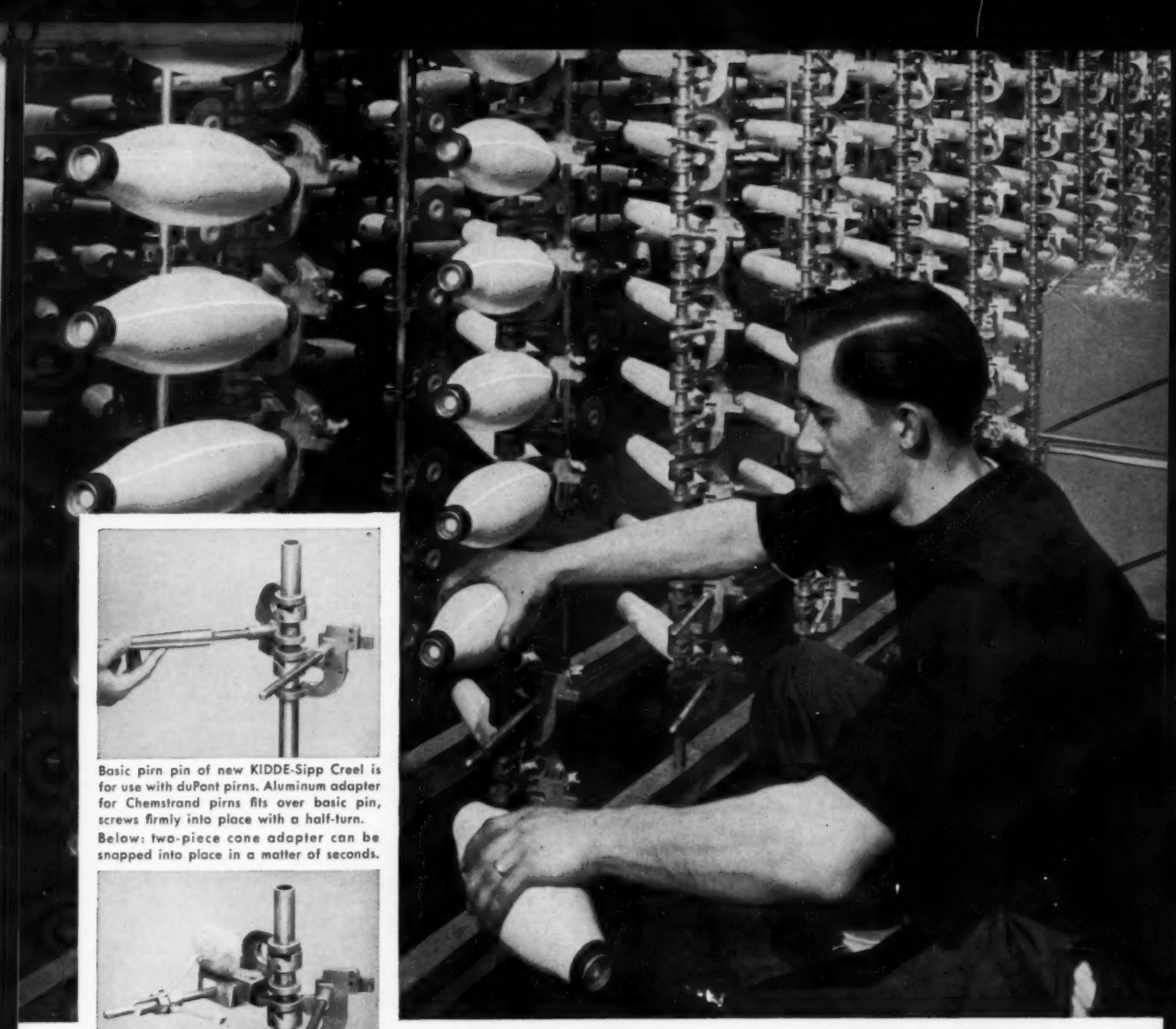
DISTRIBUTION FACILITIES
AND SERVICES "PACKAGED"
FOR YOUR OPERATIONS

There's one simple, across-the-board answer to any caustic soda problem you might have: *Get it from Dow!* Dow has the *form* you need: ground flake, flake, solid, 50% or 73% solution. Dow *makes delivery* by the most economical "package": tank car, tank truck, barge or ocean tanker.

Dow's Alkali Sales Department will gladly look into the economics of *your* caustic use . . . and may well be able to point out surprising *savings*. So many services are yours—*dependably* yours—when you deal with Dow. THE DOW CHEMICAL COMPANY, Dept. AL 360F-1, Midland, Michigan.

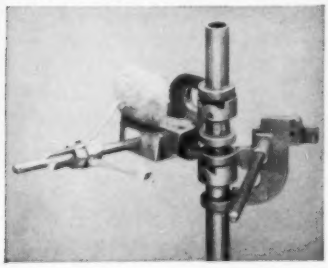
you can depend on DOW CHEMICALS

DOW



Basic pirn pin of new KIDDE-Sipp Creel is for use with duPont pirns. Aluminum adapter for Chemstrand pirns fits over basic pin, screws firmly into place with a half-turn.

Below: two-piece cone adapter can be snapped into place in a matter of seconds.



Starting Point for Good Warps

NEW, IMPROVED KIDDE-SIPP CREEL

To help you make better warps . . . and to make your warping more versatile, KIDDE-Sipp creels have been completely redesigned. Package holder arms are much stronger. Adapters are more rigid. Even the heaviest packages will not sag out of alignment.

Basic creels are fitted with pirn holders for the 12″ duPont pirn. Adapters for Chemstrand pirns, or for cones, spools and tubes can be added and fastened securely. Change-overs are easy and quick.

The new creels have plated pins with aluminum arms and adapters. Painting is eliminated . . . no rust can get on your yarn.

KIDDE-Sipp creels are available with inside, outside or vertical yarn delivery . . . with washer, post, or pulley tensions and with Kidde tension compensators. All are available with stop motions and with annunciator lights if desired. Write for further information to . . .

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS
BEAMERS • CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS

Kidde

MANUFACTURING CO., INC. — 42 FARRAND STREET — BLOOMFIELD, NEW JERSEY

SOUTHERN OFFICE — 267 W. MAIN ST., GASTONIA, N. C.

The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

Amerotron Corp. cites Bahnson research in air conditioning new plant

Bahnson Central Station "Year-Round" System fits exacting standards of modern Barnwell, S. C. woolen Mill

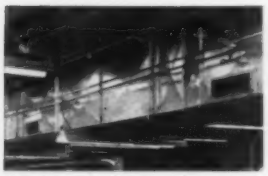
Amerotron Corporation's modern, integrated carded woolen mill recently completed at Barnwell, S. C.

Engineers and Architects: Lockwood Greene, New York, N. Y.
General Contractors: Daniel Construction Co., Greenville, S. C.

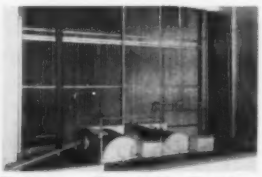
Air conditioning our new Barnwell, S. C. plant involved several principal considerations: our planned operating goals for this mill; Amerotron's special manufacturing processes; the modern design and construction of the plant; and our obligations to personnel and customers alike.

We feel that Bahnson's advanced engineering research and attention to our specific air conditioning requirements have successfully met those conditions. In our new plant, Bahnson's modern "Year Round" Central Station System contributes effectively to our aims for high quality production and operating efficiency.

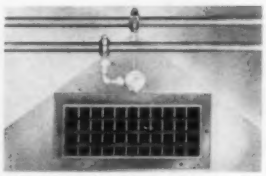
Amerotron Corporation



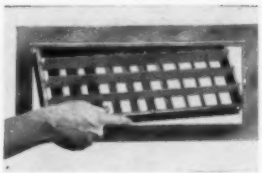
Modern Bahnson duct system, ceiling suspended, delivers saturated air under automatic control in proper proportion to the need. Custom designed, ductwork is quality built and securely connected for efficient air-handling. Bahnson type ESC Atomizers, mounted over discharge grilles, offer flexible supplementary humidification.



Bahnson Type B Suction Strainers in tank of Bahnson Type Y Air Washer automatically remove lint from re-circulated water and flush it away. Thus clogging of spray nozzles is prevented, and washer is kept operating at peak effectiveness. The Type Y Air Washer provides high saturation efficiency, requires minimum maintenance.



The self-cleaning pneumatic Type ESC Atomizer is a pioneering Bahnson design. For supplementary evaporation with the Central Station System, it provides fine spray quality with low compressed air consumption at economical operating cost. Electric or pneumatic modulating controls available for flexible regulation.



Special Bahnson adjustable grilles offer accurate directional control of air flow with four-way deflection. A removable core facilitates cleaning and allows access to duct interior. For even balancing and distribution, the wide, individually adjustable blades effectively direct air so that temperature and relative humidity are kept uniform throughout the conditioned area.

Bahnson engineering and research staffs offer you the experience and leadership of 40 years in air handling equipment design and manufacture. Your specific air conditioning needs receive top attention in the development of the finest system for application to your individual requirements.

91 OF THE TOP 100

Of the nation's 100 top textile manufacturing firms, 91 are users of Bahnson equipment!

Bahnson
COMPANY
WINSTON-SALEM, N. C.

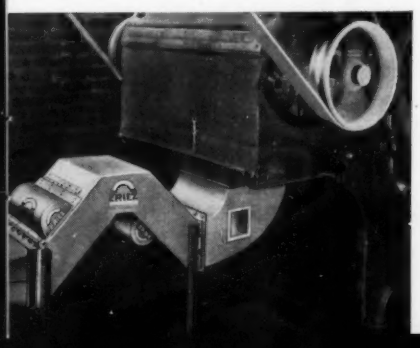
WRITE US TODAY
for detailed information.
Ask for Bulletin 22A.

AIR CONDITIONING • CLEANING • VACUUM COLLECTION

OLD IRON PANTS AND THE MAGNET! A lady from yesterday with a metal-ribbed girdle wouldn't be safe next to an Eriez Magnet. She might easily be "hung-up" by the powerful Alnico V action. This idea of herculean power is practically applied in textile processing lines. Magnets remove dangerous tramp iron preventing fires, machinery damage and loss of production in cotton, woolen, rayon and waste mills. *All Eriez Magnets are non-electric, self-contained. They operate without any wires or attachments. Best of all their magnetic power lasts a lifetime. The first cost is the last.*

MAGNETIC IDEAS FROM ERIEZ

TRAMP IRON CAN'T GET OVER THIS HUMP. Eriez Permanent Non-electric Magnetic Humps offer the ideal method of removing dangerous tramp iron from material conveyed in pneumatic lines. The patented Eriez Hump consists of 2 powerful plate magnets in an enclosed sheet-metal housing. The hump design changes the direction of the flowing material, creating a mixing or tumbling action. This directional change of the moving material allows the magnets to catch and hold spark-producing tramp iron. Eriez Magnetic Humps bear the Associated Factory Mutual Stamp of Approval for installation in textile mills, and are heartily endorsed by insurance companies as a means of reducing mill fires caused by tramp iron. Want more information? . . . request Bulletin 563.

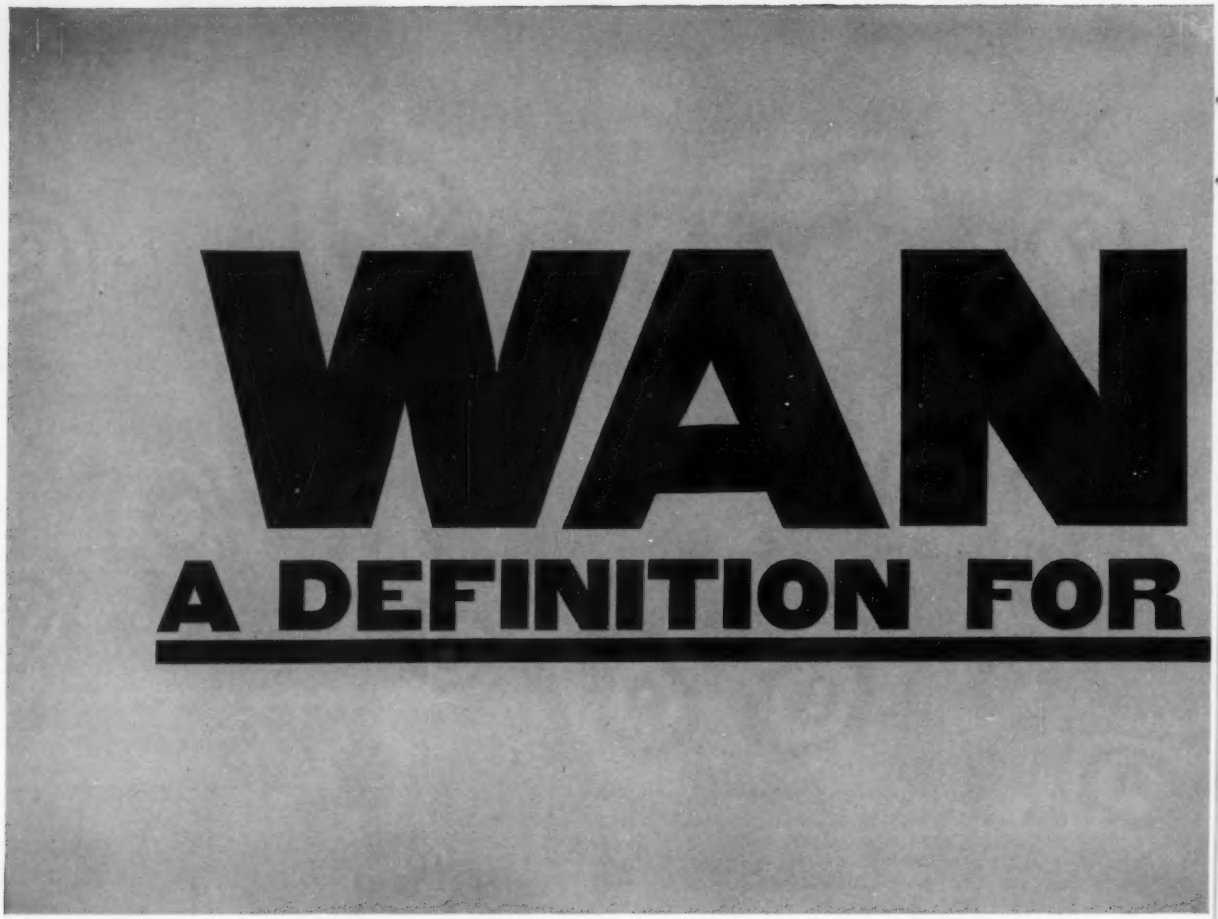


ERIEZ HI-POWR MAGNETIC SEPARATORS

ERIEZ SPIKED-APRON MAGNET SPIKES METAL DAMAGE. Lawrence Garnet Co., Lawrence, Mass., produces garnet specialties of silk and worsted, white worsted and merino. As a precaution against tramp iron damage to the machines, Eriez Spiked-Apron Magnets were installed in the feeder boxes. This step proved highly successful, and the magnets removed large quantities of knitting needles, pieces of spindles, ring travellers, etc., from the processing lines. Previously, any metal such as this would put the machine out of use for days or even weeks, seriously curtailing production. So efficient were the magnets in preventing tramp iron damage, thus saving thousands of dollars, that when the company recently installed new machinery, it would not use it until Eriez Permanent Magnets had been added.

ERIEZ MAGNET IS WATCHDOG FOR THIS FLOCK. Cellusuede Products, Inc., Rockford, Ill., manufacturer of rayon, cotton and hair flock, protects its reputation and costly cutting knives with an Eriez Plate Magnet that pulls dangerous tramp iron from the raw material before it reaches the knife blades. The finished flock, used as a coating material for textiles, paper, metals, etc., and as a reinforcing material to strengthen rubber and plastic compositions, *must* be entirely free of metal contamination. Since installing the magnet, there has been no trace of stray metal, no damage to knives by tramp iron.

Eriez' free booklet "Magnetic Ideas" can help you. Send for it without obligation. Address: Eriez Manufacturing Company, 72D Magnet Drive, Erie, Pa. Or, on your specific request Eriez' factory-trained field men backed by Eriez' laboratory and engineering know-how will be happy to study your particular problem, make a plant survey and offer helpful "Magnetic Ideas".



BIG BUSINESS—BIG PROBLEM

Wash & wear is one of the biggest, most promotable ideas ever to hit the industry. There's big money in it for the manufacturer and for the retailer. There are big advantages for the consumer. And there's a big problem we have yet to solve: wash & wear needs a definition. A definition we can agree on and live by.

THE COST OF CONFUSION IS HIGH

The lack of uniform standards for wash & wear garments has created costly problems for every level of the industry. Even salespeople (especially retail) are confused. Too often, the consumer buys merchandise in good faith only to discover she's been misled into expecting performance the garment can't possibly deliver. That kind of thing costs time, sales—and it could eventually cost the industry the faith of the buying public.

SO LET'S GET OUR CLAIMS STRAIGHT

Even where people should be "in the know"—millmen, cutters, retailers—the lack of standards has caused plenty of confusion. To gain competitive advantage, salesmen have sometimes gone overboard on claims. Where the facts aren't always clear, there has been a tendency to quote performance features they *hope* are true. These are all danger signs and the road ahead will be getting rough UNLESS AND UNTIL THE INDUSTRY REACHES SOME AGREEMENT ON A SENSIBLE DEFINITION.

THE PUBLIC IS WAY AHEAD OF US

The strangest fact of all is that the public seems far less confused about wash & wear than we in the industry. Consumers have seen the term on hundreds of thousands of hang tags, thousands of retail and national ads, on detergent powders, and in the instruction booklets they get with automatic washers.

THE CHEMSTRAND CORPORATION • GENERAL SALES OFFICES: 350 FIFTH AVE., NEW YORK 1, N. Y. • DISTRICT SALES OFFICES: 9 Rittenhouse Place,

TED WASH & WEAR

They've had time to make up their minds about wash & wear. And they don't always believe what we want them to believe. The buying public is fast deciding to rely only on the minimum advantages of wash & wear, thereby shortchanging themselves and the industry. It's time to give our customers the full benefits of wash & wear. Time to put our claims into phrases the consumer can believe and the merchandise can live up to.

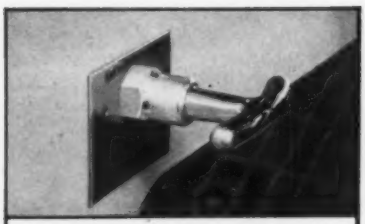
WE PROPOSE A DEFINITION

In the simplest possible language, here's what we propose wash & wear mean from now on: **A WASH AND WEAR GARMENT IS ONE THAT CAN BE WASHED BY HAND OR IN A WASHING MACHINE AT THE WARM WATER SETTING. WHEN DRIP-DRIED IT RETAINS ITS CREASE OR PLEATS, AND RECOVERS SUFFICIENTLY FROM WRINKLES TO NEED LITTLE IF ANY IRONING.** This is the definition Acrilan will be pushing in its huge advertising campaign. It's a definition that is easy to understand and possible for the industry to live with. It will clear up a lot of confusion, eliminate a lot of unnecessary waste, and infinitely strengthen the position of wash & wear in the garment field.

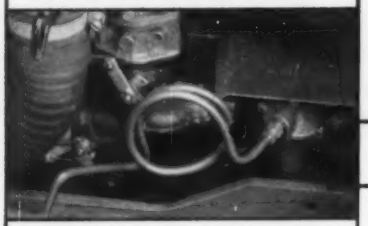
Ardmore, Pa.; 4 Pearl Street, Dedham, Mass.; 222 South Church Street, Charlotte, N. C. • PLANTS: ACRILAN® ACRYLIC FIBER—Decatur, Ala.; CHEMSTRAND® NYLON—Pensacola, Fla.

The only Gas Truck safe enough to get GS Approval!

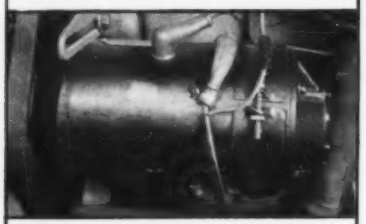
YALE KG51 SERIES



Emergency cutout switch breaks all electrical contacts in system.



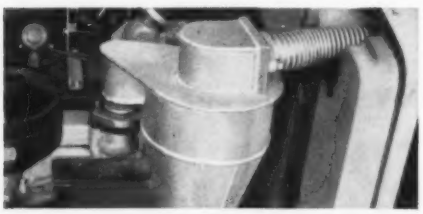
Fuel system designed to eliminate syphoning.



Generator and starting motor are totally enclosed.

POSITIVE EXHAUST CONTROL

Flame suppressor (top) and cyclone muffler (bottom) prevent emission of hazardous sparks and flames.



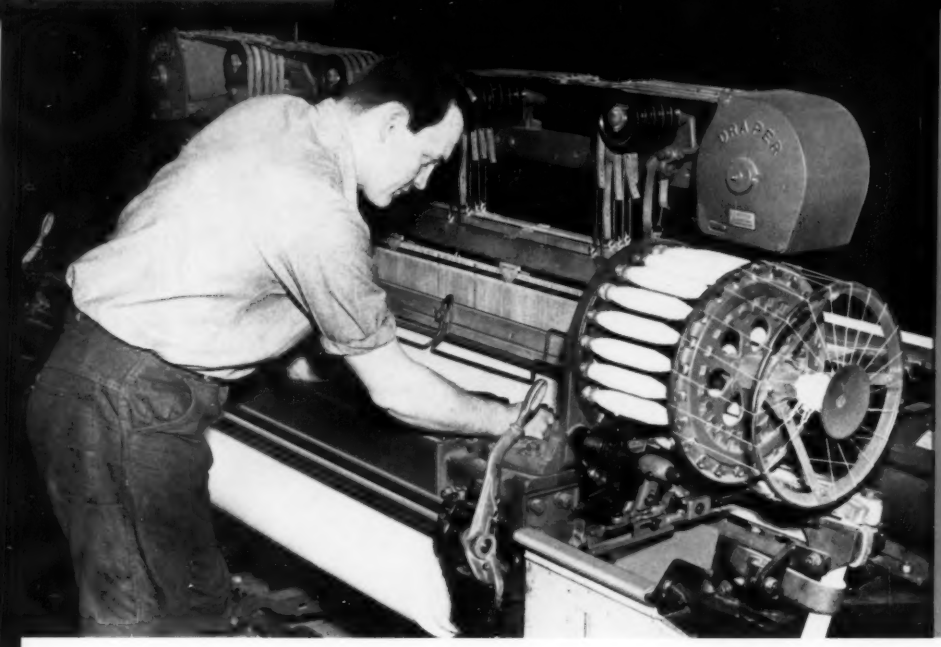
The Yale KG51 Series Gas Truck is the only truck of its type that is GS Approved by Underwriters' Laboratories (U.L. File No. AU-1572). It satisfies all the requirements of the National Fire Protective Association for safe use where combustible fibers or containers of hazardous liquids or gases are being handled in storage. Incorporated into the design are all of the safety features required by Underwriters' Laboratories GS specifications, including those shown at left.

Immediate availability! Yale KG51 Series Gas Trucks—with GS Approval and all the famous Yale engineering features that make Yale trucks the smoothest handling lift trucks ever built—are immediately available in capacities of 3,000 to 10,000 pounds. Send for full facts today about engineering details on Yale Gas Trucks with GS Approval. Write : The Yale & Towne Manufacturing Company, Philadelphia 15, Pa., Dept. 494.

YALE* *REG. U. S. PAT. OFF.

INDUSTRIAL LIFT TRUCKS AND HOISTS

Gas, Electric, Diesel, LP-Gas Industrial Lift Trucks • *Worksavers* • Warehousers • Hand Trucks • Hand and Electric Hoists



No. 8 of a Series

DRAPER LOOM FIXING

*Aligning Reeds

Either fixed or yielding Reeds are used on Draper looms. On Fixed Reed looms, the Back Box Plate is aligned with the Reed, while on Yielding Reed looms the Reed is aligned with the Back Box Plate.

To align the Reed properly, it is advisable to use a true straightedge of steel that will reach from one box to the opposite Lay End. A Reed Square is placed on top of the straightedge and against the front surface of the Reed (see Fig. 1). The Hand Rail is then fitted onto the Sword so that the Reed is perfectly square with the top surface of the straightedge as shown by the Reed Square. Both ends of the Hand Rail must be fitted so that the Reed is square with the top surfaces of the Lay Ends.

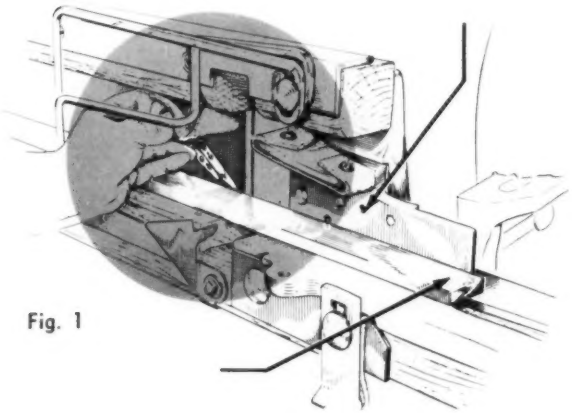


Fig. 1

Back Box Plates used with the Fixed Reed may be either adjustable or fixed. The Back Box Plate must be adjusted or fitted so that the front surface is perfectly square with the top surface of the Lay Ends.

Back Box Plates must be in line with each other and at proper distance from the front surface of the Reed. Place the straightedge on the Lay End and against the front surface of the Back Box Plate. Fit or adjust the Back Box Plate until there is a clearance of one to two drop wires (.008" - .016") between the back edge of the straightedge and the Reed (see Fig. 2).

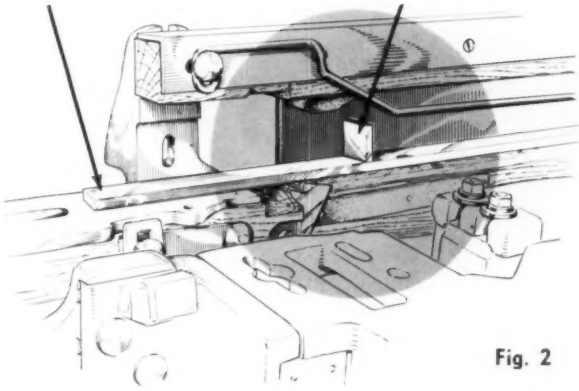


Fig. 2

The Back Box Plate with Yielding Reed equipment when applied to the loom must be perfectly square with the top surface of the Lay End. Generally, Yielding Reed Back Box Plates are of the non-adjustable type.

*This is a condensed version

DRAPER CORPORATION

Advertising Department (TI 8)
Hopedale, Massachusetts

Please send complete Setting Instruction No. 537 "Aligning Reeds."

Name_____

Position_____

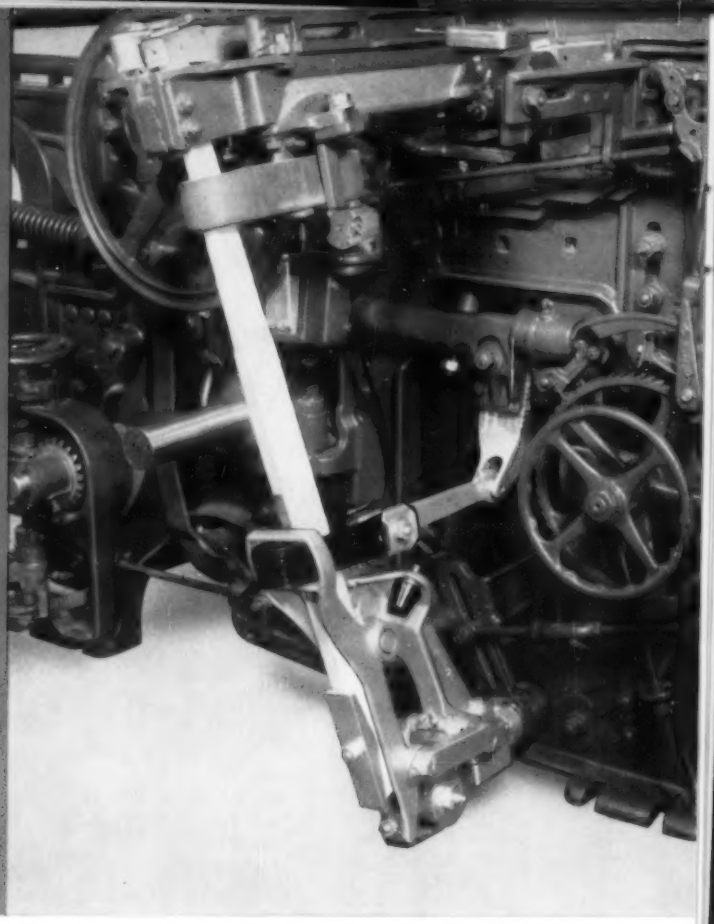
Company_____

Address_____

NEW DRAPER LINKAGE PARALLEL ASSEMBLY

IMPROVES LOOM OPERATION

CUTS MAINTENANCE COST



Extensive mill trials prove the Draper Linkage Parallel Assembly results in a more uniform, controlled picking action. This parallel assembly eliminates "jump" and "play" in the picker stick . . . improves overall loom operation and reduces wear on pick motion and parallel parts.

A fixed power block position allows more uniform power settings to be maintained. Clamp-fit of the assembly on the rocker shaft permits easy, fast application. *Picker sticks may be replaced without altering Parallel settings.*

For complete details on this *cost* and *labor-saving mechanism*, contact your nearest Draper representative or write:

New aluminum pick arm and lug strap connection is recommended for above installation.

DRAPER CORPORATION

HOPEDALE, MASS.

ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.

News IN BRIEF

Why USDA Refuses to Apply Quotas. In replying to a request by the American Cotton Manufacturers Institute for quotas on imports of cotton textiles, a letter signed by True D. Morse, Under Secretary of Agriculture, gives the following reasons why the USDA refuses to use its authority under the Agricultural Adjustment Act to apply quotas: Japan, the principal source of cotton textile imports into the United States, is also the leading foreign consumer of American cotton; the cotton textile industry is operating at relatively high levels, and furthermore the downward trend in consumption of cotton textiles is due in major part to the inroads made by the synthetic fibers, rather than to imports; imports of all cotton products in 1955 were equivalent to less than one per cent of the 1955 cotton crop; Japan is now under a self-imposed quota system; and, in any event, the cotton textile industry can appeal for relief under the "escape clause" of the Trade Agreements Act if any of its segments is unduly threatened by imports.

New Ultrarapid Cotton Bleaching Process. A procedure for ultrarapid hydrogen peroxide bleaching of cotton fabrics in open width has been announced by the Becco Chemical Division. It is claimed that this "flash-bleaching" procedure will enable a finishing plant to bleach cotton fabrics in a matter of minutes. Commercial installation of the process will follow the completion of special equipment now being developed.

New Hosiery Learner Rates Effective. Minimum learner rates for seamless hosiery are now 80¢ per hour for the first 480 hours, and 87½¢ for the second 480 hours; rates for the full-fashioned branch of the industry are 85¢ and 92½¢ per hour, respectively. A worker who has had full training on one job may be transferred to another for a period not exceeding one half of the learning period authorized for the second job, at the higher of the learners' rates.

Textile Profits Lowest. Textile industry profits after taxes are lower than those of any other industry except meat packing, ac-

cording to a report by the National Industrial Conference Board. 1954 profits were: cotton goods, 3.3%; silk and rayon, 4.7%; hosiery and other knit goods, 4.2%; and woolens, a loss of 5.5%.

Essential Off-Job Activities Must Be Paid For. The U. S. Supreme Court has ruled that employees must be paid for essential labor performed before or after their principal production job, and that

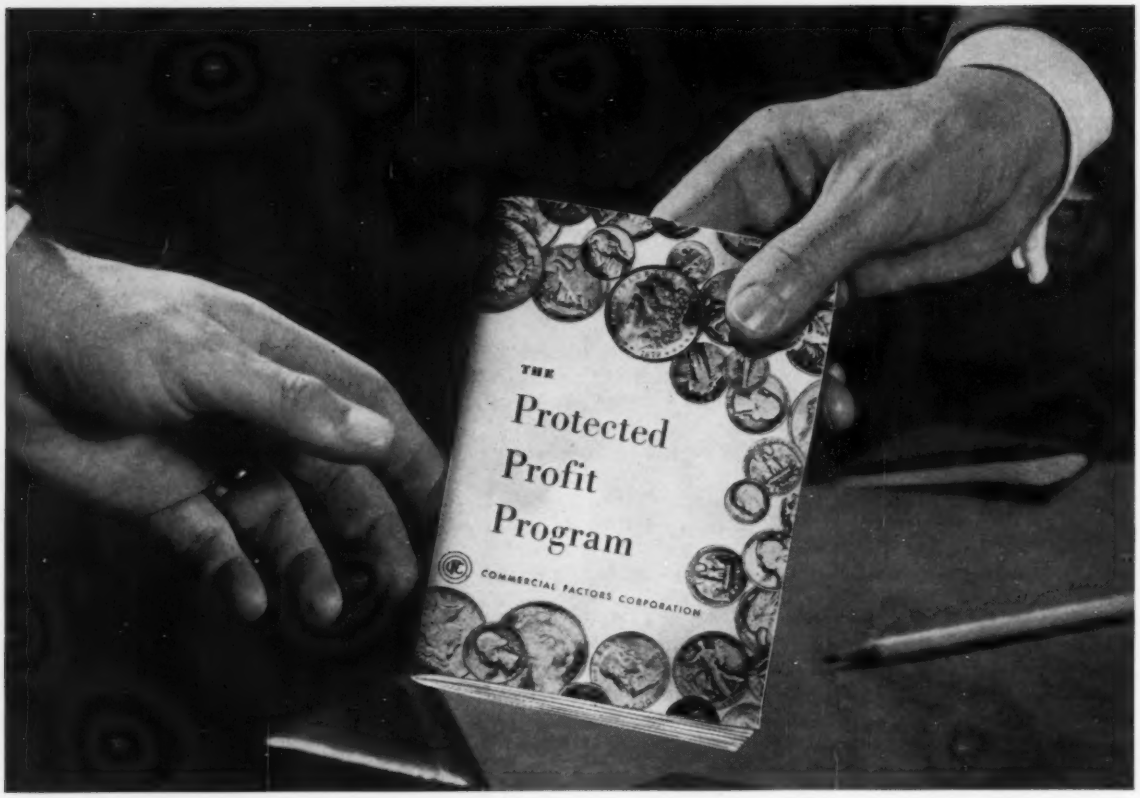
such payments do not come within the ban of the 1947 Portal-to-Portal Act. One of the cases on which the decision was based concerned employees who of necessity changed clothes when going on and off shifts and took shower baths before leaving work.

F-F Sweaters Booming. Trade sources report a sharp increase in orders for conversion of old hosiery machines to full-fashioned sweater machines.

Gingham Producers Unite to Fight Jap Imports. To explore avenues of relief from low-cost Japanese competition in ginghams and gingham products, the Gingham Market Group of the Association of Cotton Textile Merchants of New York has been reactivated. Harry Ferguson of Dan River Mills has been named chairman of the group, in which all gingham producers are participating. First action of the group was to petition for relief under the escape clause provisions of the GATT pact, although permanent relief is expected to come only through the success of the industry-wide effort to persuade congress of the need for import quotas on textiles and apparel.

Army to Buy All Textiles for Defense Department. Textile products of all types will be bought by the Army for all branches of the Department of Defense, under a newly instituted "Single Manager Plan." Food purchases were similarly consolidated several months ago, also under the management of the Army.

Manufacturer of Synthetic Fur-Like Fabrics Answers Critics. "I am alternately amused and confounded by some of the statements which have recently been made by spokesmen for the fur industry. We are pictured almost as profaners of some sacred temple because we imply that our products have some of the desirable characteristics of fine fur. . . . I would suggest that they seek the mote in their own eye . . . . if they have



Textile Manufacturers: this brochure tells you

How To Collect Your Cash As You Ship

yet extend competitive selling terms to your trade

When you ship out your merchandise, you're tieing up your investment and your profit for 30, 60, 90 days or longer until the customer pays. Through Commercial Factors' "Protected Profit Program," however, you collect your cash on the very day you ship. "Same day cash" is only one of the benefits of this dynamic program.

This is what the "Protected Profit Program" will do for you.

1. Through this program you will always have cash available as you need it. You will be able to expand your business safely, comfortably and rapidly, without adding one cent to your investment.

2. You will never again be concerned about slow collections, poor credit risks or bad debts. This will allow you to sell to a broader segment of the market.

3. You will be able to handle a larger volume without tieing up your working capital or borrowing large sums of money.

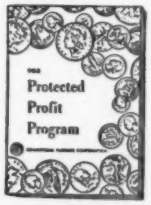
4. You will be shown many opportunities for additional profit, both in your current markets and in new areas.

5. You will save many of your present fixed and variable costs without impairing your efficiency of operations.

There are many other advantages, too. You owe it to your company's future profit to investigate all the unique features of this plan. The descriptive brochure illustrated contains full details.

Send today for free brochure

We will be pleased to send you, without any cost or obligation on your part, a copy of this brochure that describes all the key features of the "Protected Profit Program"... and offers valuable suggestions on how to expand your business and safeguard your profits.



For your copy, phone or write to Mr. G. D. Moran, V. P., Dept. T-4.

Commercial Factors
Corporation

Two Park Avenue, New York 16, N. Y. • MUrray Hill 3-1200

failed to produce moderately priced furs which can meet the challenge of the synthetic-fiber pile fabrics. . then we have filled a [long existing] void and given employment to thousands of workers in the fur industry in the manufacturing of the coats." — *David Weiss of Collins and Aikman Corp., speaking before a recent meeting of the American Association for Textile Technology.*

East Germany Courts Swedes. In a bid to improve their position in the Scandinavian market, textile manufacturers from the Soviet Zone of Germany held an exhibition in Stockholm recently. Man-made fibers, especially perlon (nylon), were strongly featured.

More Government Patents Available Without Royalty. More than 900 additional government-owned patents available for private use on a nonexclusive, royalty-free

basis are described in "Patent Abstract Series Supplement," PB 111854 (Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. Price: $3.75). A previously issued companion volume, "Patent Abstract Series — Ceramic, Paper, Rubber, Textile, Wood, and Other Products and Processes," PB 111470, is still available from OTS at $1.00.

Synthetic Fibers Part of American-Way Exhibit. Synthetic fibers contributed by the Du Pont Co. are part of the People's Capitalism Exhibit, which was planned by the Advertising Council and which will tour various foreign countries under the auspices of the U. S. Information Service. The exhibit is designed to show foreign countries how America's peaceful economic revolution has created the highest standard of living for the most people while preserving the freedom and dignity of the individual.

TTMA Building New Home. The Tufted Textile Manufacturers Association has begun construction of a new headquarters building at Valley Drive and Cuyler St., Dalton, Ga.

BBB Hits at Misleading Textile Advertising. In a move aimed at eliminating inaccurate and misleading fiber descriptions in the advertising of fabrics and apparel, the Better Business Bureau of New

York City has published a "Guide for Retail Advertising of Textile Fibers." The 19-page booklet, which was prepared in cooperation with retailers and fabric and yarn producers, sets forth five principles of truthful advertising in the textile and apparel fields: 1. Actual fiber content should always be disclosed. 2. No fiber should be given undue prominence in a manner which implies its presence in greater than actual quantities. 3. Claims should be limited to provable facts. 4. Names of fibers should not be used descriptively when the fiber in question is not actually present (e.g., "silky" rayon). 5. Trade marks and trade names should not be deceptive (e.g., "Nylotweed" as a name for a fabric containing little nylon and no wool).

Group to Study Registration of Textile Designs. A special committee on design registration to study the possibility of establishing a design registration service for manufacturers of automotive and outdoor furniture fabrics has been set up by a subgroup within the National Federation of Textiles. George H. Day, II, of Chicopee Mills is chairman of the committee.

Korea Gets Textile Machinery from UN. Textile machinery worth $575,000 will be supplied to four Korean mills by the United Nations' Korean Reconstruction Agency. Included in the project are five units of opening and picking machinery, with 15 to 20 machines each, which will enable the Korean mills receiving them to use a cheaper grade of cotton. It was not revealed from which country the machinery will be purchased.

News in Brief

Consumers Buy Less Apparel. Consumers spent 11.9¢ of each dollar for textile apparel items in 1929, but the figure had dropped to 9.5¢ by 1951, according to the U. S. Department of Commerce.

Mills to Buy More Machinery This Year. Textile machinery manufacturers in the Northeast expect orders this year to run about 10% ahead of last year, a recent survey shows.

Flax Bows Out in England. Flax, grown in England for over a thousand years, has joined the dodo and the great auk in extinction, as far as England is concerned. The crop recently harvested in the Nor-

folk flax country was the last, since Her Majesty's Government has decided to close the remaining flax mills run under the auspices of the Board of Trade.

Shelf Life of Neoprene-Coated Nylon Fabrics. Results of Navy research into the shelf life of lightweight neoprene-coated nylon fabrics have been released by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. The 18-page report, PB 111728, is available from OTS at 75¢ per copy.

TEAM Day to Be Annual Event. The first Textile Education and Machinery (TEAM) Day, held last year at N. C. State College, was such a success that it will be an annual event, according to W. Frank Lowell, president of the American Textile Machinery Association. This year's Team day will be held on May 10 at Lowell

New! from Super Tufter

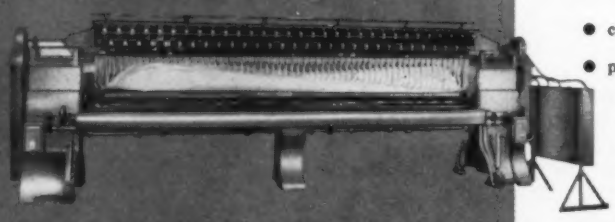
Better Tufting Desian Control

Super Tufter Model 208 with

NEW ELECTRIC AUTOMATIC PATTERN CONTROL

Model 208 short loop tufting machine, with the new, completely automatic pattern control gives unexcelled sharpness in design reproduction. This is the machine the tufted textile industry has so eagerly waited to see and use.

- changes from high to low pile instantly
- creates the most even pile of any machine now available
- can run either all low or all high pile
- positive drive and yarn feed
  - pattern can be reversed in minutes
  - eliminates lines on the repeat
  - pattern control attachment does not slow down production
- all mechanical parts easily accessible for maintenance
- aluminum tubing only 6 inches in depth



Other Super Tufter yardage machines available in 40", 45", 60", 76", 121", and 168" widths. For either Cut Pile, Short Loop or Long Loop.

Super Tufter
MACHINERY COMPANY, INCORPORATED

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CABLE ADDRESS "SUTUF"

(Mass.) Technological Institute.

Import Miscellany. A Joint Committee on Labeling of Textile Imports has been formed and will campaign for clearer country-of-origin labeling on foreign-produced apparel and on domestically produced clothing of imported fabrics. * * * * The South Carolina Legislature has received a bill which would require retailers and wholesalers of Japanese textiles to display signs saying that they do so. * * * * The Federal Trade Commission has launched an investigation of how consumers react to the term "imported" on woolen goods.

Perlon Prices Reduced. West German prices for perlon (nylon) were reduced an average of five to seven per cent at the beginning of the year. Last previous price reduction was in the summer of 1954, when perlon yarn prices were cut about 30 per cent.

Synthetic Fibers Useful in Shoes, Says QM. Newly developed synthetic threads such as nylon and Dacron have properties which make them useful in military shoes, according to a report by the Army QM Research and Development Command. In two-year tests of stitching threads and bottoming cords of cotton, linen, nylon, and Dacron at various humidity-temperature conditions, the synthetic threads were found, in general, to have maintained their strength better than the natural fiber threads. Copies of the 31-page report, "The Effect of Storage on Shoe Threads," PB 111976, may be obtained from the Office of Technical Services, U.S. Department of Commerce, Washington 25, D. C. Price: $1.00.

Israel Buys U. S. Textile Machinery. New textile machinery worth $7,000,000 has recently been ordered by Israeli mills from U. S. and European suppliers, according to a release by the Israeli government. Current plans call for the addition of about 50,000 cotton spindles and 10,000 worsted spindles to the present total of about 60,000 cotton spindles, 17,000 worsted spindles, and 11,500 woolen spindles. No break-down is available of the percentage which is of American origin.

Machine for Screen Printing Socks. Samar Machines, Ltd., Leicester, England, is the assignee of British Patent 736,650, in which the machinery normally used to screen print bottles and similar cylindrical articles is adapted to

print patterns and fancy effects on knitted hosiery. The material to be printed is mounted on a mandrel, which in turn is placed on a rotary spindle. The impression is made as the spindle, mounted on a movable carriage, is rotated while pressed against a screen.

Freight Savings With New Cotton Bale Coverings. ". . . if a plastic cover should prove suitable [as a cotton bale covering], which weighed within the range of those included in these tests [of new bale coverings], the savings would be ten pounds per bale in both directions [manufacturer to distributor and gin, and gin to mill]. This, roughly figured, would amount to about two bales of cotton shipped free in every carload." *—George Pfeiffenberger of the National Cotton Council, speaking at the 1956 Cotton Research Clinic.*

News in Brief

Hannover Fair to Include Textile Machinery. Manufacturers of textile machinery will be among those displaying their wares at the German Industries Fair, to be held at Hannover, West Germany, April 29-May 8. Information on the Fair is available from the German-American Trade Promotion Office, Empire State Building, New York 1, N. Y.

Information on Texas Cotton. A new publication, "Summary of the Average Tensile Strength and Fineness of the Texas Cotton Crops for the Crop Years of 1949 Through 1955," is available from

MERCHANDISING NOTES

Bates Mfg. Co. has patented and introduced fabrics which use polyethylene, or other yarns capable of high shrinkage, in combination with other fibers to produce terry, crepe, pucker, and blister three-dimensional effects.

Carpet Fashions Unlimited, Inc., is producing to customer order a skein-dyed tufted carpet of 100% wool. The customer may order it in any color and design of his choice, at a retail price of $13.95 to $19.95 per sq yd, which Carpet Fashions claim is a 50% saving over handmade carpet produced to order.

C. D. Men's Fashions, Ltd., has been authorized by Christian Dior to use the Dior name in the manufacture of men's sportswear, casual wear, and similar products. This marks the first entry by Dior into the men's wear field.

Celanese Corp. of America is producing a fire-retardant acetate filament yarn in both natural and solution-dyed colors.

Du Pont reports that Orlon now accounts for 68% of synthetic sales yarns (not including rayon and acetate). * * * A sales training sound-slide film on wash-and-wear men's and boys' clothing has been made available to retail stores.

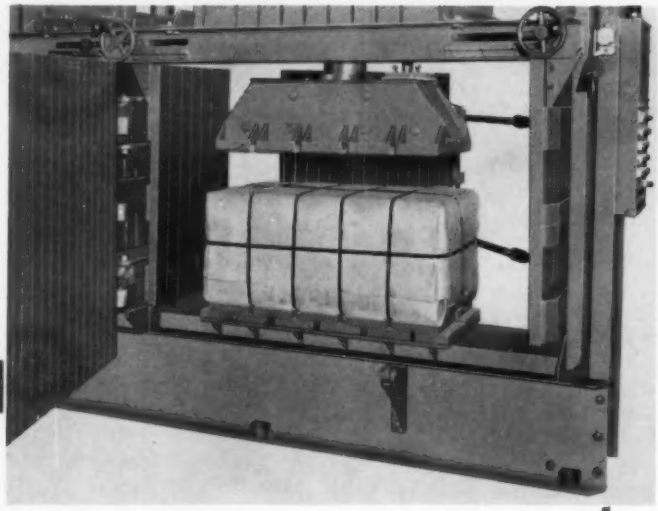
Textileather Division of General Tire & Rubber Co. now includes two deeply embossed tweed effects and a natural grass fiber effect in its line of Nygen Tolex vinyl upholstery fabrics.

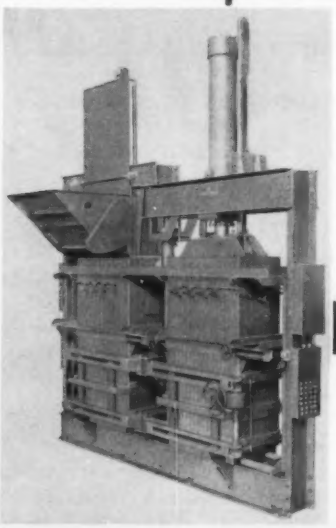
Sportleigh-Hall is using tow-dyed bulked Orlon yarn in woven coatings; the fabrics are tweeds with a nubby, knitted appearance.

CONTINENTAL'S

New Automatic Baling Press and Automatic Hydraulic Tramper

This efficient and ruggedly constructed new baling press has been designed especially to meet the needs of the textile industry for packing cotton, synthetics, wood fiber or waste in cartons or bagging.





FEATURES INCLUDE:

Roll-out end doors and ample clearances overhead facilitate the insertion and strapping of cartons, and easy removal of packaged material.

Automatic control of bale weight.

Push button operation for maximum capacity with unskilled labor.

High volume pumping unit for speed.
Massive design to minimize down-time for repairs.

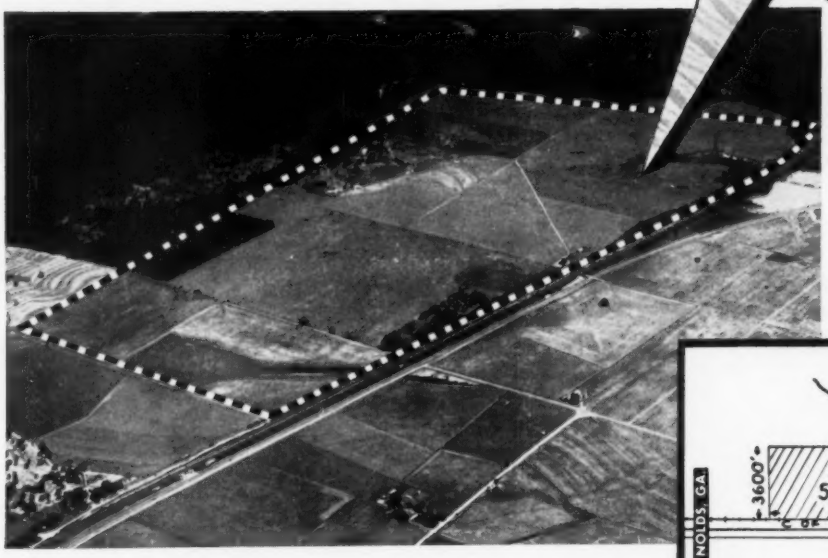
Made in both up and down-packing units, in single or double-box design, with high carbon or stainless steel liners. Currently in use by major textile and synthetic producers in this country and foreign countries.

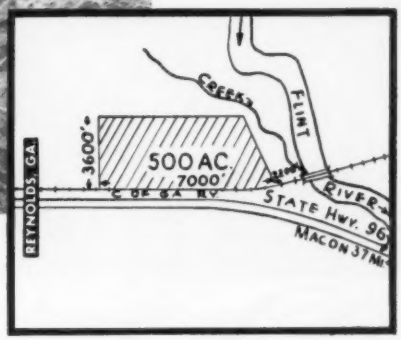
Write today for further information to—

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
BIRMINGHAM, ALABAMA

ENGINEERS CGC **ATLANTA • CLEVELAND • DALLAS • KNOXVILLE** CGC **MANUFACTURERS**
MEMPHIS • NEW YORK 17, NEW YORK

WOOL PROCESSORS!...





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- 500 acres of level terrain.
- Located one mile east of Reynolds, Ga., 37 miles from Macon.
- Flint River has minimum flow of 193,881,600 gallons per day at site.
- Ample underground water supply.
- Served by Central of Georgia Railway, connecting daily with 15 major railroads—fast, dependable transportation to all markets. Also connects daily with Port of Savannah for import and export operations.
- Fronting on State Hwy. 96, which connects with U. S. Hwys. 341 and 19.
- Population of 55,937 within 25-mile radius.

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Get full details about this unusual choice site for your new wool processing plant. Information and maps are available from your Central of Georgia Industrial Location Specialist. All inquiries handled in strict confidence. Write, call, or wire today.

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Beechcraft → airfleet of the textile industry

Cotton Economic Research, The University of Texas, Austin, Texas.

Advocates Two-Price Cotton System. A two-price system for cotton is advocated by Senator Sam J. Ervin (D., N. C.) as a solution to the surplus problem. He proposes a four- to eight-cent differential between domestic prices and export prices, to close the gap between the world cotton price and the price of American cotton sold to overseas buyers.

Britannia Learns the Ropes. The British Admiralty will probably make extensive use of nylon ropes, following favorable results in recent tests, reports an English correspondent.

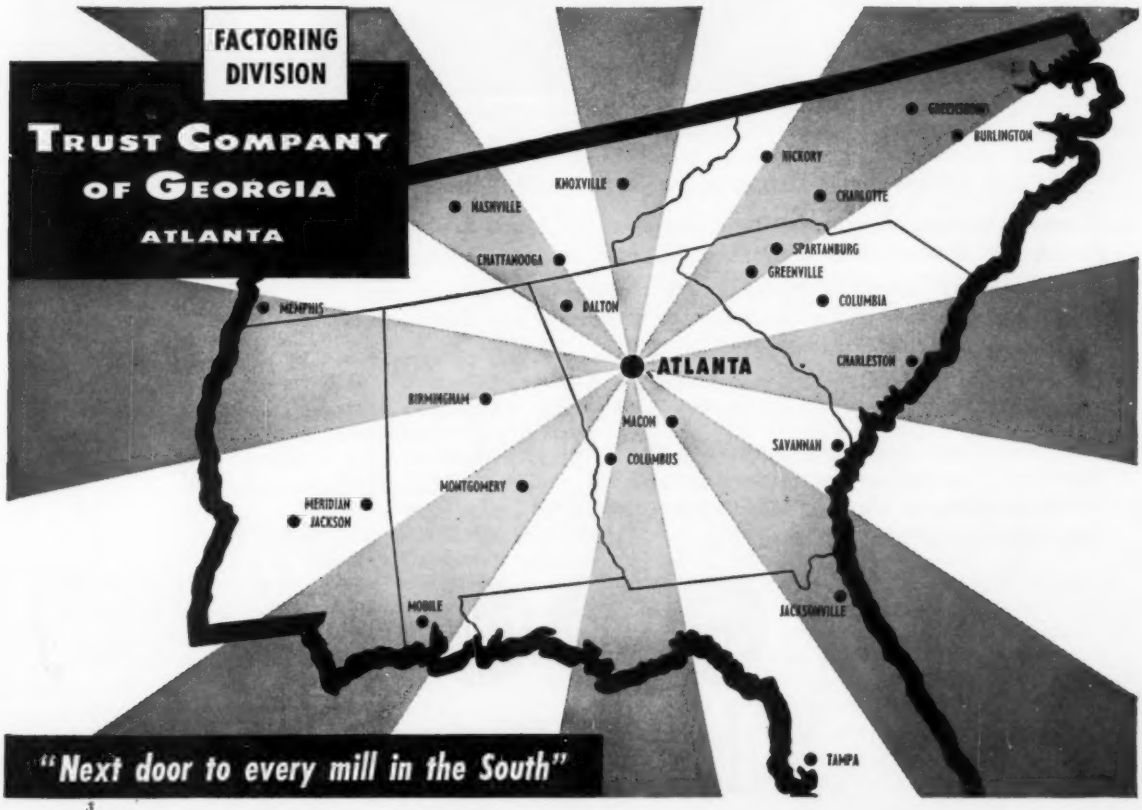
Why Vinyl Fabric Sales Are Soaring. Discussing the fact that sales of vinyl fabrics in 1955 amounted to more than 120 million yards, with a value of over $100 million, E. G. Hamway of the Textileather Division, General Tire & Rubber Co., attributes the growth of the industry to four factors: ingenuity of chemists, engineers, production men, and stylists within the industry; continual education of the consumer and industrial user to prevent misapplication of the product; maintenance of high quality standards; and development of improved raw materials.

Japanese to Build Rayon Pulp Mill in Alaska. The U. S. Forest Service has authorized a Japanese company to construct a plant to produce dissolving pulp for rayon in the Tongass National Forest at Sitka, Alaska. The plant will have a capacity of 300 tons per day, all of which will go to Japan. Construction will not start until the Japanese company raises sufficient capital.

TRI To Expand Lab Facilities. A $63,000 addition to the present laboratories of the Textile Research Institute at Princeton, N. J., will provide new laboratories, and also offices for the Publications Department, which recently moved from New York. A seminar room of the central laboratory building will also be expanded to seat 160 persons.

News in Brief

New Machinery Developments Featured at Swiss Fair. Swiss textile machinery manufacturers will be displaying their latest designs at Basel April 14-24 during the Swiss Industries Fair. Here are some of the things visitors to their booths will find: A magazine for automatic looms that holds 84 filling bobbins; an optical-electronic filling feeler; ribbon looms equipped with filling stop motions and ribbon equalizer; a bobbin stripping machine which strips up to 6000 bobbins per hour; and a "Turbinator" which accelerates the various chemical processes involved in the finishing of fabrics.



You Can't Beat Horse Sense

MR. JAMES F. MALCOLM, President, Revonah Spinning Mills

"The future belongs to those who prepare for it. That's plain horse sense."

There you have the down-to-earth philosophy of Mr. James F. Malcolm, President of Revonah Spinning Mills of Hanover, Pa.

That philosophy, backed by the courage to invest in the future, has led Revonah to a position of prominence in the business of spinning yarns for the weaving and tufted industries.

The Industrial Rayon Corporation is indeed proud of Mr. Malcolm's comments on The New Nylon Staple:

"The bulk of our nylon yarn business is blends and we find that The New Nylon Staple contributes greatly to our spinning efficiency. We have used The New Nylon for a year and have found it highly satisfactory!"

THE NEW Nylon Staple

I·R·C *Industrial Rayon Corporation*

Sales Offices: 500 Fifth Avenue, New York 36, N. Y.
627 Guilford Bldg., Greensboro, N.C.

AN EXECUTIVE Views

THE NEWS IN TEXTILES

Prepared by a man who is closely identified with the textile industry.

Hope for Quotas

AS THE current congressional session moves along into warm weather, the situation of the textile industry becomes more critical. We write this with the realization in mind that by the time it appears in print the situation may have changed drastically, because it is changing day by day in Washington; but, from where we sit, it looks as though the road ahead of us is long and hard.

Frequently people outside the industry have asked us why it is that the Administration will not grant us relief, because it seems to them that the case is so honest, and one which is so worthy of relief, that it is incomprehensible that the State Department and the Administration cannot see the point. We must confess to similar feelings from time to time, because we find it awfully hard to understand ourselves.

Here on the one hand is one of the greatest industries in the nation, an industry which was said during the last war to be second only to steel in its importance to national security, being sacrificed on the altar of free trade, when about all we can do is stand by and watch its demise.

We have the secret feeling that if two or three textile people could go fishing with the President of the United States and could sit out on the side of a Georgia creek with him, that they could convince him of the honesty of our case in about thirty minutes.

Through the long months of this debate, we have doubted that the people in the State Department, and others higher in Washington's official life, have given the President all the facts concerning our predicament. It seems to us that in spite of the change in parties and in the Administration, Washington is still controlled by the boys in the striped pants and cutaway coats, whose eyes are always on the far horizon and whose feet rest sublimely on the clouds.

Be that as it may, we now find ourselves in the middle of a rushing cataract, with the shore a long way off.

As we write this, both the Department of Agriculture and the Department of State have given an emphatic "No" to our plea for administrative quotas. A major farm bill providing, among other things, for the sale of surplus American cotton on the world market at prices below what we have to pay for it, is now being debated in Congress, and the bill contains no provision for legislative quotas.

Several other bills, which do provide for legislative quotas for textiles, do repose in the legislative mill but it seems almost a certainty that, unless the quota proposal were tied on to something else, the President would send them back with a veto. No responsible person we have talked with has even expressed the thought that enough strength could be marshalled in Congress to pass such a bill over the President's veto.

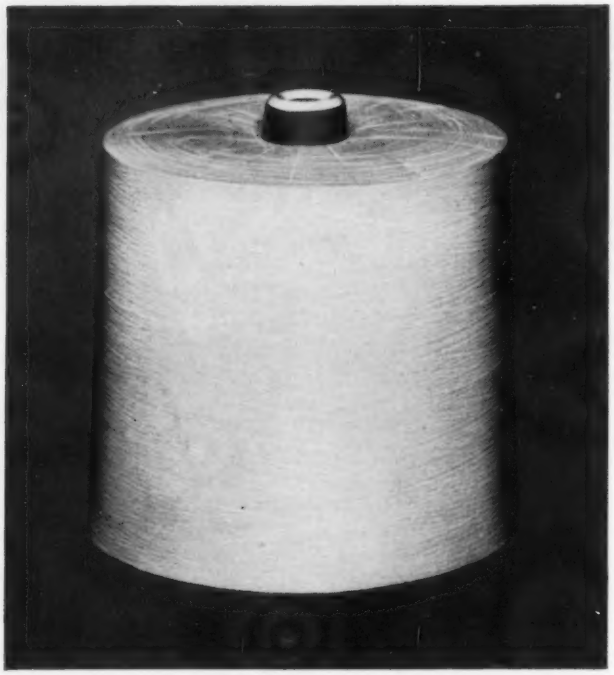
It looks to us as though we may have to wait for two more years in the event we fail to reach our objective during this session of Congress. This is an election year and congressmen and senators are always more receptive to the pleas of their constituents during a time such as this. Generally speaking, they are more sensitive in an election year to public opinion and they are more likely to act promptly and aggressively. If we fail now, we may have to wait for another election year two years hence.

Congressman Bryan Dorn of South Carolina was quoted recently as saying that if Congress does not vote quotas during this session, the Japanese will *really* flood the American market with textiles. In Congressman Dorn's opinion (and this writer certainly shares it), all the talk of "voluntary quotas" on the part of the Japanese has been solely for the purpose of forestalling American legislation, and when they feel safe from this threat they are going to hit us with both barrels and the kitchen stove.

Escape Clause Action

People outside the industry, as well as some inside the industry, frequently ask why an escape clause action has not been filed under the provisions of HR 1 which was passed last year. We certainly cannot answer this because we are not in any sense of the word close enough to this picture to understand all of its ramifications, but we can see that the filing of an escape clause action is a route beset by several pitfalls.

In the first place, if the industry filed such an action it would claim that it is being hurt badly (or that it is just about to be hurt



new package
cuts creeling costs
up to 26%...
improves quality

CELANESE* ACETATE YARN NOW AVAILABLE ON 6-LB. CONES

Celanese has developed a new 6-lb. acetate yarn cone which offers weavers and knitters definite advantages in both cost and quality. These are:

1. Reduction in labor costs in quilling, warping and knitting because of longer runs. Savings run up to 26% in warping, 15%-20% in backwinding and redrawing, 3.5% in quilling.
2. Extremely low average knot count per pound of yarn (average of slightly over *one knot per cone!*).
3. Fewer knots in beams due both to less frequent transfer and to fewer breaks—particularly important in heavier deniers where large knots pick up dirt passing through tensions, drop wires, heddles, etc.
4. More uniform tension throughout the cone as a result of the large supply package used in coning.

For further information, write Celanese Corporation of America, Textile Division, Charlotte, North Carolina.

*Reg. U.S. Pat. Off.

Celanese CORPORATION OF AMERICA, NEW YORK 16, N. Y.

Using Salt Efficiently

by **INTERNATIONAL SALT COMPANY, INC.**—America's largest producer of salt

Unloading Bulk Salt From Boxcars—at Lower Cost

While salt is a relatively low-cost material, handling it often involves considerable expense in time and manpower. Unloading bulk salt from boxcars, for example, has always been one of the problem spots. Today, however, a number of money-saving unloading methods have been developed for large and small plants.

Determining which of these modern salt unloading methods is best for your company depends on the tonnage involved, and specific plant requirements. But you can generally find one which will pay for itself—in savings on time and labor—over a relatively short period. Here is a review of four practical salt unloading methods, and the equipment used in each.

Portable conveyor system. This is the simplest improvement over straight manpower. A power-operated belt conveyor of suitable length is placed inside the car door, and salt is then shoveled onto it. Conveyors may be used to bring salt directly into the plant—or even to storage areas above dock level. A good conveyor for most needs is generally about 16 to 18 feet long and capable of moving salt up a 30° slope. With a conveyor, a good deal of manpower in shoveling is required, but one 40-ton car can be unloaded in about 12 to 14 man-hours—a 19% saving in time over straight manpower.

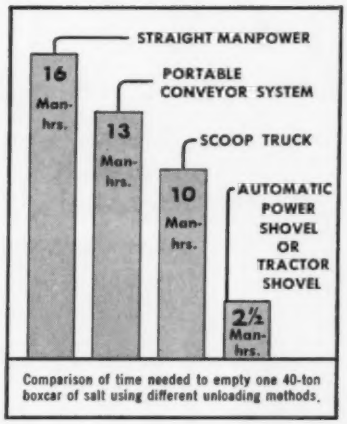
Scoop truck and conveyor. A scoop truck is simply an enlarged scoop shovel with two small wheels at the bowl of the scoop. Whereas a shovel holds only about 20 lb. of salt—a scoop truck holds 100 to 150 lb. In operation, the scoop is pushed into the salt, tilted up, and then wheeled to the conveyor at the car door. With just one of these scoops, a worker can unload 40 tons of salt in 10 hours—and once the job is under way, there is room for two or three more men with scoops. An important point: A good scoop truck costs only about $50.

Automatic power shoveling. This is one of today's most popular methods for unloading bulk salt—and many manufacturers offer excellent power-shovel equipment. Basically, the device consists of a large power-operated scraper blade mounted on a cable. The scraper is moved toward the end of the car, and as soon as this motion stops, a power winch takes hold to drag the scraper toward the car door. Salt is pushed out through the door by the scraper. One man can unload a 40-ton car in 2 or 3 hours by this unique method. Both winch and motor for the power shovel must be permanently mounted on the dock or side of the building—but the installed cost of this equipment is moderate.

Small gasoline or electric tractor shovel, somewhat similar to a fork-lift truck, but with a scoop mounted in place of the forks. Many types are available, some having forks interchangeable with the scoop. One man on this type of truck can empty a 40-ton car in 2 to 3 hours—the equivalent of

power-shovel unloading. The higher cost of a tractor shovel, however, is often justified when it can be made available for other purposes.

Extra savings are possible with tractor shovels with scoop attachments. These trucks not only move salt out of the boxcar, but also transport it to any point of storage or use within the plant. This eliminates the need for various types of conveying equipment—either on the dock or in the plant. And manpower for handling salt in the plant is considerably reduced.



Comparison of time needed to empty one 40-ton boxcar of salt using different unloading methods.

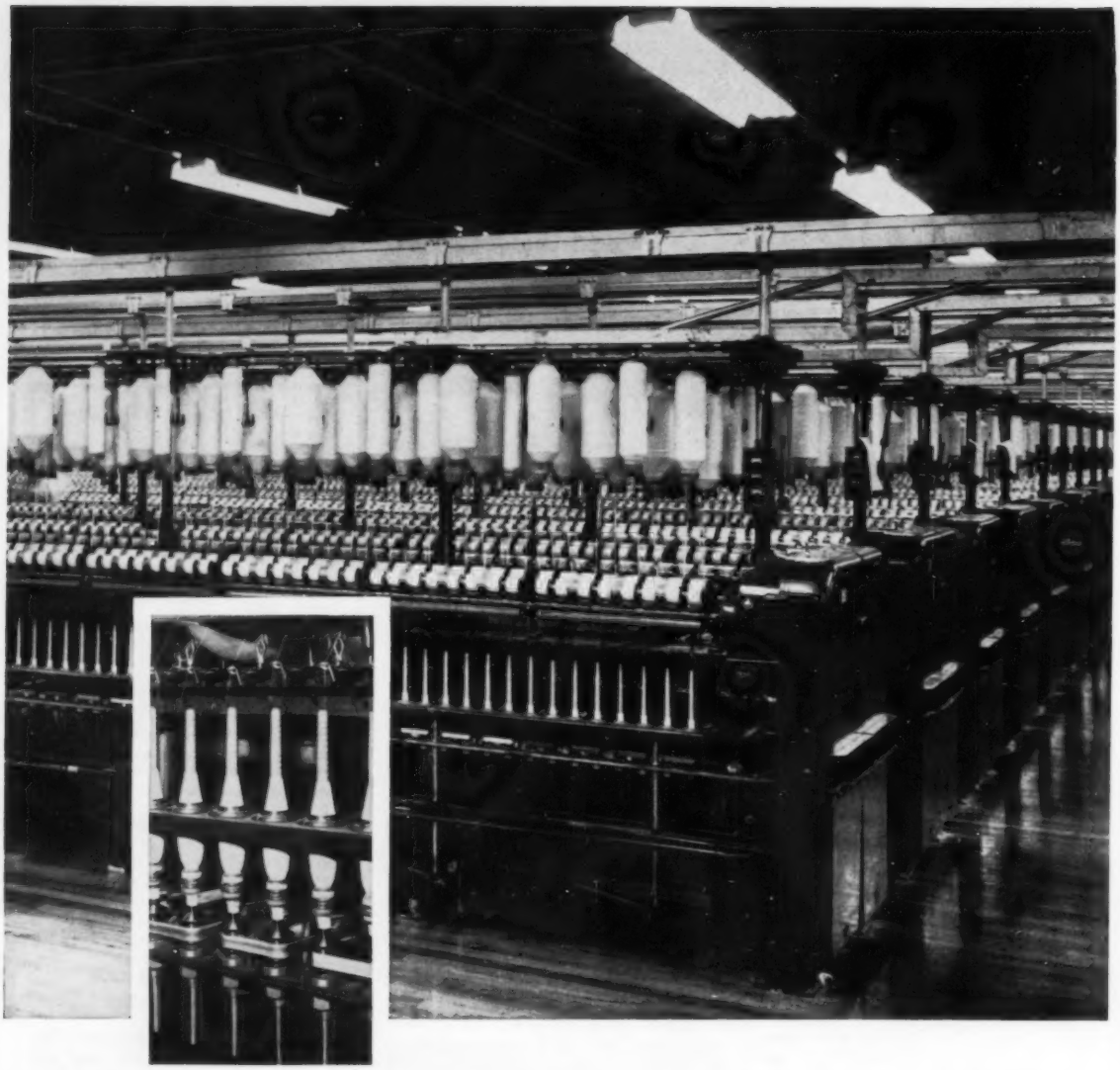
TECHNICAL SERVICE WITH YOUR SALT

Through skilled and experienced "Salt Specialists," International can help you get greater efficiency and economy from the salt you use. International produces both Sterling Evaporated and Sterling Rock Salt in all grades. And we also make automatic dissolvers in metal or plastic for both types of salt. So we have no reason to recommend one type of salt over another; we simply suggest the type and grade of salt most perfectly suited to your needs.

If you'd like help on any problem concerning salt or brine—or further information on salt unloading—contact your nearest International sales office.

International Salt Company, Scranton, Penna.
Sales offices: Atlanta, Chicago, New Orleans, Baltimore, Boston, Detroit, St. Louis, Newark, Buffalo, New York, Cincinnati, Cleveland, Philadelphia, Pittsburgh, Richmond.

FOR INDUSTRY, FARM, AND THE HOME—
STERLING SALT
PRODUCT OF INTERNATIONAL SALT CO., INC.



Marquette TOP DRIVE FILLING SPINDLES
increase production 15% to 18%

The above photographs show a typical install. ion of the new Marquette Top Drive Filling Spindles, with hardened steel blade and exclusive full-floating footstep bearing.

Marquette Roller Bearing Spindles are giving excellent results in many mills. Among their advantages are higher spindle and front roll speeds, low ends down, savings in doffing, savings in the weave room, and savings in power and maintenance.

Marquette Roller Bearing Spindles can produce more yarn at lower cost in *your* mill. We'll be glad to prove this through a test installation. Contact our home office or one of our representatives.

Representatives: WILLIAM P. RUSSELL, BOX 778, ATLANTA, GA.
C. H. WHITE, MOUNT HOLLY RD., ROUTE 6, CHARLOTTE, N. C.
R. MICHAEL TURNER, 100 CHESTNUT STREET, CLINTON, S. C.

MARQUETTE METAL PRODUCTS DIVISION
CURTISS-WRIGHT
CORPORATION • CLEVELAND 10, OHIO

Other Marquette Products: SPRING CLUTCHES
HYDRAULIC GOVERNORS • AIRCRAFT WINDSHIELD WIPERS
ROTARY OIL PUMPS • PRECISION PARTS AND ASSEMBLIES

badly) and the Tariff Commission would have to schedule a hearing on this. Following this hearing, the Tariff Commission would then take some time to deliberate before sending its recommendation to the President. The President would then deliberate, with the State Department getting in its licks during his deliberation, and then he would come up with his decision.

We would be willing to bet a Japanese spinning mill that his final decision, under these circumstances, would be unfavorable to the industry, but during all the time this action was pending Congress and all the other administrative agencies would say, "Let's wait and see how your escape clause action comes out and then if you do not get any relief there, maybe we can help you."

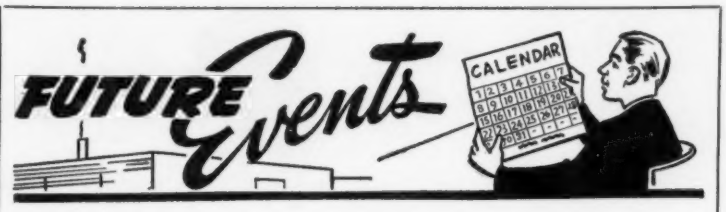
The velveteen segment of the textile industry, which has now lost about 75% of its market to the Japanese and which is, perhaps, the most extreme example available, filed an escape clause action around January 20 and the Tariff Commission is not even going to begin hearings on the case until mid-June. This illustrates the point that by the time a decision is reached it can be too late. When the doctor takes too long in making his diagnosis, the patient may sometimes pass away before remedial medicine can be administered.

To us an escape clause action for the textile industry is nothing but a delectable piece of cheese in the State Department trap.

Labeling of Textile Products

There are several bills now pending in Congress which provide that some type of label be affixed to textile products to indicate the fiber content. No broad, general statement can be made regarding the provisions of these bills because they differ on essential points; but it can be said that their general purpose is to give the ultimate consumer indication as to the fiber or combination of fibers used in both piece goods (over the counter) and garments, as well as in other items such as household goods.

(Continued on page 249)



Date		Event	Location
April	5-7	American Cotton Manufacturers Institute annual meeting	Hollywood Beach Hotel Hollywood Beach, Fla.
	5-6	Carolinas Section, American Society for Quality Control	Clemson House Clemson, S. C.
	7	Piedmont Section AATCC	Sir Walter Raleigh Raleigh, N. C.
	9-12	National Packaging Exposition	Auditorium Atlantic City, N. J.
	11-13	Alabama Cotton Manufacturers Association annual meeting	Hotel Buena Vista Biloxi, Miss.
	18-19	National Knitted Outerwear Association annual convention	Waldorf-Astoria New York City
	19-21	Phi Psi Fraternity annual convention	A. P. I. Auburn, Ala.
	20	Philadelphia Section AATCC	Benjamin Franklin Philadelphia, Pa.
	20-21	Quebec Section, CATCC annual meeting	Sheraton-Mt. Royal Montreal, Que., Canada
	21	Georgia Carding-Spinning Discussion (TOE)	Georgia Tech Atlanta, Ga.
	25-28	Cotton Manufacturers Association of Georgia annual convention	Emerald Beach Hotel Nassau, Bahamas Islands British West Indies
	26	Rhode Island Section AATCC	R. I. School of Design Providence, R. I.
	27	Northern New England Section AATCC	Lowell Tech Lowell, Mass.
	27	New York Section AATCC	Kohler's Swiss Chalet Rochelle Park, N. J.
	27-28	Delta Kappa Phi Fraternity annual convention	Georgia Tech Atlanta, Ga.
	28	South Central Section AATCC	Hotel Patten Chattanooga, Tenn.
May	2-3	The Fiber Society, Inc.	Clemson House Clemson, S. C.
	2-4	North Carolina Industrial Safety Conference	Hotel Charlotte Charlotte, N. C.
	4	The Underwear Institute annual convention	Hotel Roosevelt New York City
	5	Mid-West Section AATCC	Plankington Hotel Milwaukee, Wis.
	11	Western New England Section AATCC	Waverly Inn Cheshire, Conn.
	14-19	National Cotton Week, sponsored by National Cotton Council	
	18-25	Southeastern International Industrial Exhibition	Lakewood Park Atlanta, Ga.
	31-June 2	Tufted Textile Manufacturers Association convention	The Fontainbleau Miami Beach, Fla.
	31-June 2	South Carolina Textile Manufacturers Association convention	The Cloister Sea Island, Ga.
June	5-7	Textile Seminar, sponsored by Textile Technical Federation of Canada	Queens University Kingston, Ontario
	14-16	National Association of Hosiery Manufacturers annual meeting; also Hosiery Industry Conference	Hotel Roanoke Roanoke, Va.
	17-20	ASTM Annual Meet and Apparatus Exhibit	Chalfonte-Haddon Hall Atlantic City, N. J.
	21-23	Southern Textile Association annual convention	Mayview Manor Blowing Rock, N. C.
Sept.	6-7	The Fiber Society, Inc.	The Warwick Hotel New York City
	10-15	Perkin Centennial	Waldorf-Astoria New York City
	13-15	American Association of Textile Chemists and Colorists annual convention	Waldorf-Astoria New York City
	27-28	Combed Yarn Spinners Association convention	Cavalier Hotel Virginia Beach, Va.
Oct.	1-5	Southern Textile Exposition	Textile Hall Greenville, S. C.
	10-12	North Carolina Textile Manufacturers Association annual meeting	The Carolina Pinehurst, N. C.
	13	Georgia Slashing, Weaving, and Maintenance Discussion (TOE)	Georgia Tech Atlanta, Ga.
	17-27	International Knitting Machinery & Accessories Exhibition	Granby Halls Leicester, England

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ORGANIC CHEMICALS: Ethylene Oxide • Ethylene Glycols • Polyethylene Glycols • Glycol Ether Solvents • Ethylene Dichloride • Dichloroethylether • Formaldehyde Methanol • Sodium Methylate • Hexamine • Ethylene Diamine • Polyamines • Ethanolamines • Trichlorobenzene • Polychlorobenzene • Trichlorophenol

You Can Streamline the Plant Management Job

Here are three methods other mill executives employed:
(1) eliminate useless records
(2) balance extra-mill activities
(3) use supervisory expedients

STAFF PREPARED
EXCLUSIVE

IN ADDITION to his everyday duties of producing cloth with the best control of material, machines, personnel, and costs, the plant manager is faced with a number of fringe duties: negotiating with unions, keeping up with new developments through the visits of suppliers' representatives, reading industrial publications, attending association meetings, and participation in community activities. All of these are important and take time. But none is directly connected with delivering salable goods on time to profitably fulfill orders.

How important are these fringe duties? How can they best be dispatched? There is no simple answer. Obviously, each mill case will vary in its requirements and therefore in determining which is the most suitable system.

One thing is certain: There is no place in mill administration for work duplication, unnecessary work, or cumbersome methods; there just isn't the time.

TI's editors questioned a number of mill men in top managerial positions in the cotton, woolen, synthetics, and knit goods branches of the industry to see how they had solved the problem of streamlining and balancing a complex assortment of chores. This article is based on their replies.

Civic Activities. It is a rare mill today which feels that its responsibility as an employer ends at the mill gate. Employer and employees are inevitably involved in community activities — Community Chest, Boy Scouts, local government, etc. — and feel that the time spent is well invested.

Although civic activities are of necessity subordinated to the operation of the mill, most of the management representatives interviewed find or make time for Chamber of Commerce, Rotary, and a host of other local affairs.

Union Activities and Negotiations. In unionized mills, of course, union activity and negotiations are ever-present problems. Although their nearness may not be so obvious in many nonunion plants, management officials are emphatic that time *must* be found to keep thoroughly informed on the activities and methods of operation of any union which is a potential organizer of a mill's employees.

Trade Associations. Perhaps typical of the interest in trade associations is one mill which is actively represented on six committees of two trade organizations, and which maintains passive membership in one other association. This mill finds its memberships and activity important in picking up useful information and in making business contacts.

Again, while activity in trade associations is time-consuming, management feels that the time spent is well worthwhile.

Keeping an Eye on Legislation. Some mills consider that their membership in and support of their Chamber of Commerce (local and state) keeps them in close enough touch with legislation which may affect the mill's operation. Others prefer an individual approach as well.

One mill, whose course has much to recommend it, not only supports the groups to which it belongs in opposing or favoring legislation affecting the mill and its employees, but also keeps in touch by letter or by wire with legislators and congressmen to present its views. Management at this mill makes a close study of all local, state, and national legislation, and its probable effect on the mill's business.

Reading Trade Publications. All the officials interviewed were in agreement on the importance of reading trade magazines and other trade publications; this is often done at home.

Says one mill man, "We have a sort of clipping service to filter out the pertinent stuff. Our company treasurer or his secretary goes over the daily press and marks items for various departments. We check the tables of contents of the monthlies for items of interest; usually we can tell after the first paragraph or two whether or not we should take the time to finish. Most of us have a pet publication which we take home to read."

Spending Time With Suppliers' Representatives. Suppliers' representatives are one of the most important sources of information for the mill executive, and most mill officials try to see at least some of them.

TEXTILE INDUSTRIES covered this problem at considerable length in the February, 1956, issue, pages 117-148.

Finding Enough Time. The mill executives interviewed by TI were

asked how they solved problems which arose in apportioning their time among the duties discussed above.

The manager of a synthetics dyeing and finishing plant said: "We don't have problems in finding time for our duties and we have no time budget. There are loafers and there are doers. A doer likes to do things and can always find time for a job. Those who aren't doers spend their time criticizing.

"We happen to find it fascinating to be active, particularly in extra-mill activities, because it gives us insight into what people are thinking. In the mill, we promote people because they are the ones who want to work. This business of getting around outside of the mill has many advantages; the company and individual becoming known is one of the more important ones."

The general manager of a synthetics spinning and weaving plant had this to say: "Such problems are solved by putting in extra hours of work at home. Organization to handle details is the answer, but in these days of rather severe competition the balance of duties usually falls in favor of cost considerations."

The manager of a rapidly growing knitting mill in the men's outerwear field explained his method of operation: "When our business was smaller, I personally attempted to do a great deal and was checking on everybody who was working under me. It finally reached a point where the business grew and a more formal plan or organization was required.

"We set up an organization chart which specified duties and job classifications. All executives were then familiarized with the organization and job classifications with emphasis on the final goal. This required training for those who were not doing their jobs well.

"A side problem was in keeping people formerly responsible for a job from dashing into the picture like an old fire horse everytime there was an emergency or problem. We have weekly reviews of the results of the organization; we accept the actions of the executive, but if he is not performing properly, he is replaced."

Keeping Records. Sometimes records in a mill are kept long after they have served their purpose. Several executives were asked how they handled the problem of keeping adequate records and preserving them as long as necessary, without getting bogged down in paper work.

Said one plant manager, "This work is delegated to a three-man team: my two assistants and the foreman of each department. They have to come up with the answers to that one as well as many other such questions. Guiding their decisions is the knowledge of the complexity of our procedures, the number of special cases, the impossibility of standardization, and the danger of oversimplification."

And another top official: "We have a schedule for periodically reviewing records. We feel this to be important to the regulation of administrative costs."

Aids to Supervision. Expedients

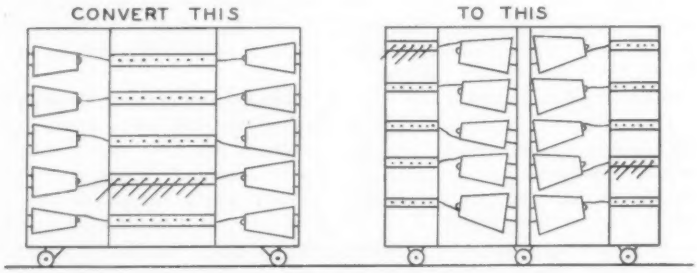
Use These Preparatory Tips for Filament Weaving Mills

STAFF PREPARED
EXCLUSIVE

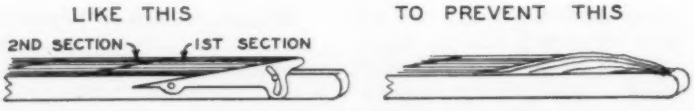
All mills have their own pet formulas, settings, and procedures for running their standard styles. While what is good for one is not always good for another, here are some details of warping, slashing, and quilling that one filament weaving mill standardized for use with acetate and rayon medium denier yarns. The woven goods are generally piece dyed.

Warping

SAVE STEPS IN CREEL TENDING by rebuilding standard creels so that all policing for ends down can be done from outside of creel.

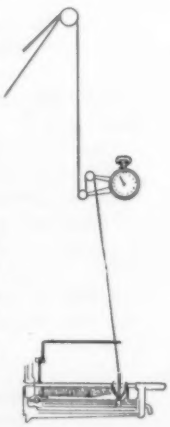


RUN DOUBLE WARPS ON SILK SYSTEM WARPING MILLS; beam off on two different loom beams for more efficient warping. Increase capacity of reel to take more warp by equipping flat staves with an adjustable terminal.



Quilling

CHECK TENSION often. Too much will cause shiners; too little, slough-offs in weaving. When quilling 75 denier rayon and acetate, apply 20 to 30 grams tension; 100 denier, 30 to 40 grams; 150 denier, 40 to 50 grams.



used to make sure that employees do a good job vary widely among the mills questioned. One large mill emphasizes supervision at the overseer level, and as much as possible of the overseers' guidance comes from the plant manager's assistants.

At weekly meetings, the overseers are given details of the profit and loss picture of the company. They are told about indications of how customers feel about the mill, and about any slip-ups.

Samples of competitors' work are shown, and the overseers are advised of any new developments that may have come up. All records are made available, and if any individual falls short in the cost picture, he is told about it. Supervisors are considered as partners.

This mill has a policy of sending groups from one of the company's mills to another. One such group recently returned with a money-saving mechanical idea.

One official explained his mill's method of helping to get the job done: "Responsibility is directed through channels in our organization as the best way to expedite proper job conduct. In addition, supervisors and overseers are sent to management school. We have had three years of classes run by a local college, and progress is excellent. We also subscribe to publications for the overseers. Meetings are held by the various echelons of organization once a week."

Paper Work for Overseers. Sometimes overseers are so bogged down with paper work that they don't have time for adequate patrol of their departments. Several mill executives were asked what they do about this problem. One replied:

"We try to keep office work down to a bare minimum for overseers. We expect supervisors to be on the job and we keep only those who understand the importance and need for such a policy and those who exercise it."

Another mill has almost entirely eliminated paper work for overseers: "Our overseers' duties are set up so that they patrol their departments and see what is going on. We have no offices for our overseers. Our forms and production records are so made up that they have nothing to write. They make a mark on these forms and pass them along."

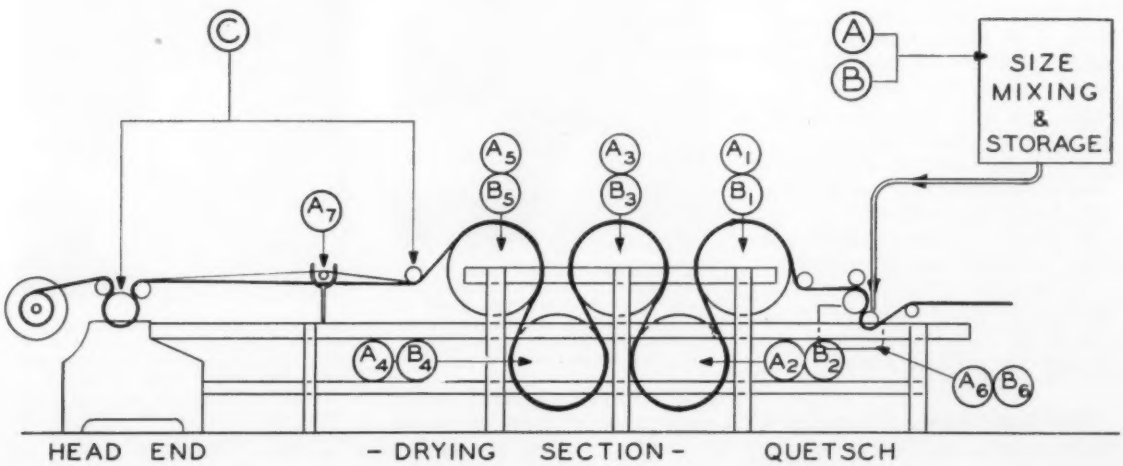
At another mill with a similar system: "We (a woolen mill) feel that our overseers are technicians rather than clerks, and some have devised a form for charting the progress of orders going through the mill which eliminates master record keeping at the departmental level. Briefly, the form is sent to the dressing department and accompanies the warp, and later the piece, through drawing-in, weaving, weave-room perching, sewing and burling, and fulling and dyeing. Overseers mark only pertinent information such as piece numbers, weight, width, imperfections, length, yarn lot, etc., on the same ticket as it passes through their department. The ticket contains a carbon duplicate which is submitted to the mill office for control journal entries."

Slashing

A. FORMULATION OF SIZE for acetate:
7% gelatin (3-3.5 grade)
3% Nopco No. 111 oil
1% Nopco No. 1440 penetrant
Percentages are based on the weight of the water. A 40-gallon mix is recommended for a 1000-yard warp. Drum temperatures (five-can Johnson) are 160 (A_1) - 180 (A_2) - 190 (A_3) - 180 (A_4) - cold (A_5). Size pan temperature is 140 F (A_6). Use one split rod at cold end (A_7).

B. FORMULATION OF SIZE for rayon.
3½% gelatin (3-3.5 grade)
2% Nopco No. 111 oil
Percentages are based on the weight of the water. A 40-gallon mix is recommended for a 1000-yard warp. Drum temperatures are 180 (B_1) - 190 (B_2) - 190 (B_3) - 200 (B_4) - cold (B_5). Size pan temperature is 135 F (B_6). Note: Size formula in both A and B should be mixed as follows—start at room temperature, using 4/5 of the total quantity of water. Add gelatin and mix for one-half hour, bringing temperature up to 160 F (do not exceed). Add other ingredients and balance of water. Do not overagitate.

C. STRETCH FOR RAYON should be four to five per cent; for acetate between two and three per cent. Warp sheets should be stretched at the front of the slasher and not by holding back the unslashed beam.



Cleaner Yarn and Room with Less Effort Are Results When Mill Uses Frame Cleaner-Vacuum Scavenger Combination

STAFF PREPARED

EXCLUSIVE

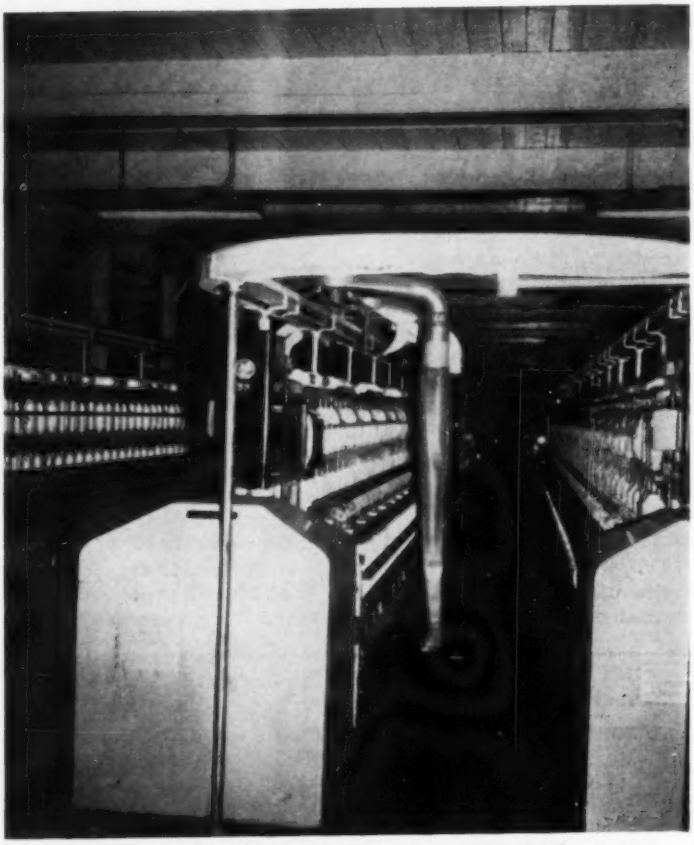
MOST SPINNING mill men will agree that clean yarn can only be made in a clean mill. Generally, a mill policy on cleaning is required to guide personnel, and whatever is set up is usually reflected fairly faithfully in spinning room cleanliness.

Such policies usually include regular manual cleaning schedules and, in recent years, installation of some sort of air blowing system. These systems vary from a simple placement of electric fans about the room to a multi-outlet unit traveling on a rail mounted above, and encircling several frames so that lint is blown free from creel to floor at short time intervals.

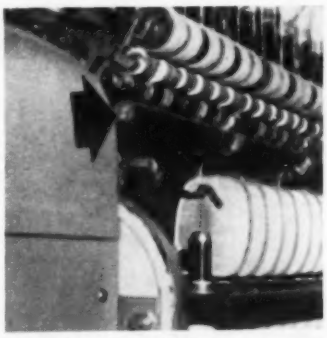
Many times a question is asked concerning air blowing systems, "Shouldn't the circulating lint be collected as it is freed from frame parts and floor?" This question has been affirmatively answered by Watatic Spinning Mills, Inc., Fitchburg, Mass., through installation of combined air-blowing and vacuum; the former completely applied to the frame once each three minutes, and the latter operating at front roll delivery continuously.

The installation is a result of 2½ years of trial and study at Watatic; qualitative and quantitative results to date are as follows:

1. Cleanliness in spinning used to be fair; accumulated lint, particularly on oil surfaces and beneath frames was always a headache, as it is in most mills. Today spinning is a clean operation.
2. Cleanliness is maintained with a reduction of about 200 per cent in manual cleaning.
3. Spinning frame operator loads have been increased 25 per cent.
4. Reusable fiber is being reclaimed on count ranges of from 18s to 28s at the rate of 2 to 2½ pounds per 24-hour period.



SIX FRAMES ARE ENCLOSED by the rail on which the floor sweeper (center, front) and frame cleaner (behind sweeper) travel at 250 feet per minute. Exhaust and waste collection box of vacuum system are shown at frame end (foreground).



TERMINAL TUBES of Thoma cleaning system (arrow) are slotted beneath each delivery, draw in an end that is down; but more significantly, suck in lint circulated by frame cleaner.

WASTE BOX of vacuum system yields about 2 to 2½ pounds of workable fiber every 24 hours for 18 to 28 count range. Fiber diagram of collected fly and soft ends down is the same as for that of the fiber in the roving fed; stock is open.

The Installation. Watatic is a 30,000-spindle unit set up to spin cotton and rayon sales yarns in a count range of from 18s to 50s. All opening, picking, and carding

are done at ground level and sliver is directed to one of three upper floors, depending on the count to be spun; each floor contains a complete spinning unit through packing.

First attention has been devoted to equipping the coarsest count department (18s to 28s) because more poundage is produced and consequently more fly is created per unit of time.

Frames are equipped with Parks-Cramer Type CTF frame cleaners and Type CTS "Elephant" floor sweepers, hooked in tandem and circumnavigating a rail covering six frames every 3 to 3½ minutes. Scavenger rolls have been replaced by Thoma cleaners.

The Thoma cleaning system includes a conical duct fixed beneath the frame, with its large end terminating in a box at the end of the frame. An ordinary suction fan creates a vacuum in the duct which draws air through the system to a screen filter. The duct is fitted with tubing at frequent intervals; these terminate beneath front rolls on both sides of the frame. The tubing is slotted beneath each delivery.

What Actually Happens? It is usually believed that the vacuum slot fixed as described beneath each delivery in place of the scavenger roll has but one function: to pick up ends down. To investigate this, Watatic ran a test.

They knew that the fiber collected at the screen filter for a 24-hour period totaled about 2½ pounds. A frame was shut down but the Parks-Cramer and Thoma cleaners were allowed to operate. At the end of the 24-hour test period, they still collected 2 pounds of fiber. This proved that picking up ends is actually the smaller part of such vacuum cleaning.

The Results: Cleaning. In a broad sense, the effect of the cleaning efficiency realized at Watatic is psychological. Operators feel cleaner and therefore do a cleaner job. Women operators no longer have the uncomfortable feeling of lint in their hair.

Specifically, components of manual cleaning schedules either have been eliminated or reduced in frequency. For example:

1. Hand wiping creel, rails, and under - work, particularly oily parts, has for the most part been eliminated.

2. Sweeping has been practically eliminated; the traveling air activated "floor sweepers" are directed inward from both sides of the spinning room to a center aisle and collected there at regular intervals (see TEXTILE INDUSTRIES for July, 1954, p. 167).

3. Rollers formerly were cleaned every three days; now they are cleaned at six-day intervals.

4. Under-work, formerly cleaned weekly, is now on a monthly schedule.

The Results: Spinning. Quality-wise, Watatic reports an over-all improvement in yarn quality because of a reduction in fly imperfections.

Increased work loads have been made possible through elimination of smashes, i.e., build-up of yarn on scavenger roll to the point where it will knock down adjacent ends. Spinners have been put at ease about these smashes and watching for them has been eliminated.

Controls. With a vacuum system for picking up ends down, there is a tendency on the part of operators to either ignore or miss seeing and fixing a broken end. Watatic has in force a strict system whereby waste boxes of the Thoma cleaners are emptied and weighed each shift.

Knowing what is normal for a given count, supervisors call out-of-control waste figures to the attention of operators.

Trade Groups Urge Ruling to Prevent Misuse of Term "Imported"

THIRTEEN trade groups have joined forces under the sponsorship of the Textile Section of the New York Board of Trade to propose the adoption by the Federal Trade Commission of a ruling designed to identify the source of imports in garment labeling and sales representation.

The proposals, designed to prevent misleading use of the term "imported," follow:

> 1. Failure to disclose affirmatively on mark or label the origin of foreign-made fabrics contained in such apparel which, if known to prospective purchasers, would tend to influence them in their purchases, is an unfair trade practice.
>
> Failure to make such disclosures in advertisements, consumer contacts or other representation is an unfair trade practice.
>
> 2. *(alternate)* Where an article of wearing apparel made chiefly of fabrics of foreign origin is labeled or otherwise marked as being made of "imported fabrics," the manufacturer of such articles of wearing apparel shall also indicate on the label or otherwise the country in which such fabrics were made.
>
> Where an advertisement or other representation indicates that an article of wearing apparel is "imported" or indicates that the fabrics of which it is made are "imported fabrics," such advertisements or representation shall also disclose in type of equal prominence the country of origin where the article of wearing apparel was made or where the fabrics were made, as the case may be.

The proposals arose to prevent use of the term "imported" to give the impression of quality in merchandising where such use represents a deception.

A six-year old labeling ruling of the Customs Service which requires labeling country of origin on imports has never been enforced, because the F.T.C. has ruled that local dyeing and finishing of imported grey goods changes them so radically that they lose their identity.

While the F.T.C. is informally in favor of the proposals, it would take about a year to activate a ruling; and a committee composed of representatives of the trade groups feels that such a delay would be dangerous. If approved,

enforcement of the ruling would be voluntary and would probably be policed by such a group as the National Better Business Bureau; the F.T.C. would be empowered to issue a cease and desist order upon complaint.

Five members of the committees met with the F.T.C. in Washington during the week of February 20 to request issuance of the ruling.

The committee has also requested that the F.T.C. hold up on a consumer survey designed to determine the effect of labeling practices on woolen articles so that it might be expanded to include cottons and synthetics too.

In Dyeing Nylon Cakes: Allow for Shrinkage and Minimize Handling

STAFF PREPARED
EXCLUSIVE

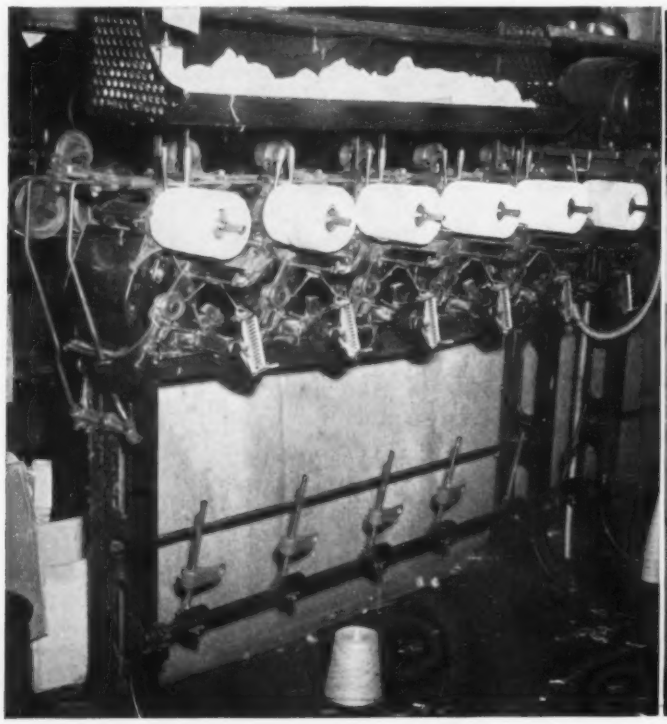
AT HAMILTON Cotton Co. Ltd., Hamilton, Ontario, 210-denier nylon cakes are being dyed on an English machine in 96 one-pound package lots. The unit is made by Long Close Engineering Corp. of Leeds, and the dyeing procedure is similar to rayon cake dyeing in that one way circulation of scouring, dye, and rinse bath is activated by the machine. This is accomplished through 12 tubes on which the cakes are loaded; the top slots only of the loading tubes are perforated to allow liquor to flow downwards.

Preparing the Cake. The nylon is wound onto cakes from either cones or pirns, and one of the main keys to successful dyeing is to make the inside diameter of the cake larger than the arm of the dyeing unit to compensate for shrinkage of the nylon.

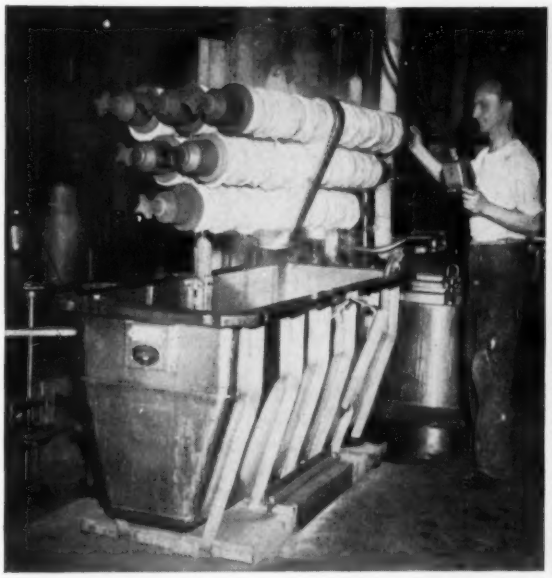
Winding is done on a No. 50 Universal machine fitted with a 4½ inch wooden sleeve, the size arrived at by the mill to best allow for shrinkage. Packages are made to weigh one pound, are protected by a standard knitted cake sleeve, and are tied up individually for protection. Winding tensions are firm.

Scouring. The dyeing procedure involves three steps: scouring, dyeing, and rinsing. Total time varies with the type of dye used and depth of shade, but averages about 3½ hours; in light shades this can be extended to as much as six

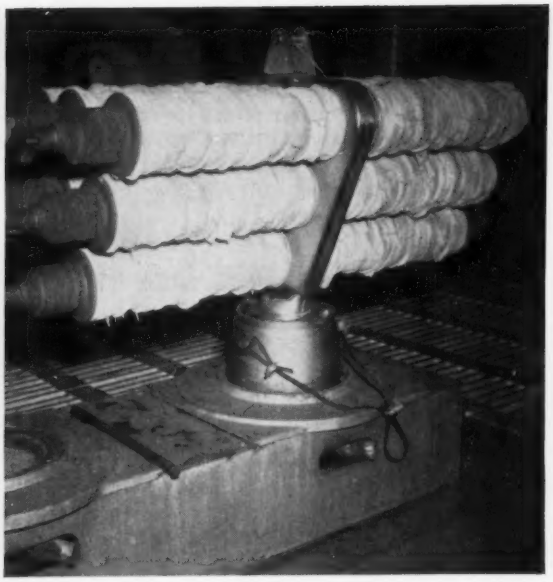
CAKES ARE WOUND on a No. 50 Universal machine at firm tension on a wooden adapter that is 4½ inches in diameter, or 1½ to 2½ inches longer than carrier arm. Packages weigh one pound.



LOADING ARMS hold eight cakes each. Cakes are sleeved and tied; they fit loosely now, will be snug after scouring.



THIS MACHINE is used for scouring, dyeing, and rinsing operations. Acid dyes are used, maximum temperature is 200 F, and the average job takes 3½ hours. Loaded carrier holds 96 one-pound cakes on twelve arms. Screws at ends of loading arms are used to keep cake column firm and uniform on arms.



ABINGTON PORT DRYER is used to dry dyed cakes in two steps; extraction by vacuum for about 20 minutes, and hot air blower circulation for about 1½ hours at 180 F. The only circulation possible through the arms is through the perforated top slot in each arm. Circulation is one-way.

hours to get levelness.

Eight cakes are loaded onto each of the 12 loading arms and attached to the carrier of the machine. Screws at the ends of the arms are adjusted as uniformly as possible; inside cake diameters are about 1½ to 2½ inches greater than arm diameters at this point.

The loaded carrier is lowered into the machine and the yarn is scoured using a normal detergent at 200 F maximum for 30 minutes. Preshrinking also takes place during this step so that cakes fit snugly on arms after scouring. Screws on loading arms are again adjusted after scouring to assure uniform cake columns.

Dyeing. Acid colors are used for their fastness and levelness of dyeing. After scouring, the carrier is raised, the bath dropped, and the yarn is re-entered in the dyebath containing the dye and 1½ to 2 per cent of formic acid. Dyeing is started at 140 to 160 F and heated to 200 F. The liquor is allowed to circulate for 40 minutes (until bath is exhausted). The formic acid completes bath exhaustion.

The dyebath is dropped and two hot water rinses are circulated through the carrier at 160 F.

Drying. To minimize handling of cakes, extracting and drying are carried out on an Abington machine. The carrier is lifted out of the dyeing machine and placed on the vacuum port of the extractor. This usually takes 20 minutes. Hot air is then blown through the carrier at 180 F and drying is completed in about 1½ hours.

Agenda for 1956 Gordon Research Conference on Textiles

THE PERIOD July 9-13, 1956, has been selected for the 1956 Gordon Research Conference on Textiles which is to be held at Colby Junior College in New London, N. H.

G. R. Seidel will serve as chairman and H. A. Secrist as vice-chairman.

Following are agenda for the conference, as announced by W. George Parks, director:

July 9: Wilson A. Reeves and William Weaver—Some recent advances in the chemical transformation of cotton into new fibers; G. J. M. Sprokel—Electrostatic properties of finished cellulose acetate yarns.

July 10: Milton Harris and Robert Saxon—Chemical modifications of wool as related to fiber properties; L. G. Ray—Textured filament yarns.

July 11: Herman Mark — New polymers as potential fiber formers; W. Weltzein—Subject to be announced.

July 12: Stanley Backer — Dimensional effects in measurement of textile properties; Alfred Marzocchi and J. K. Park—Glass textile sizes and finishes.

July 13: John Menkart — Wool fiber shape factors: effect on fiber properties, processing behavior,

and fabric properties.

Meetings are held in the morning and in the evening, Monday through Friday, with the exception of Friday evening. The afternoons are available for recreation, reading or participation in discussion groups as the individual desires.

According to Mr. Parks, the purpose of the program is not to review the known fields of chemistry, but primarily to bring experts up to date as to the latest developments, analyze the significance of these developments, and to provoke suggestions as to underlying theories and profitable methods of approach for making

This Wool Mill Developed Its Own Maintenance Check

STAFF PREPARED
EXCLUSIVE

MAINTENANCE of Warner & Swasey weaving machines is quite completely charted in literature accompanying installation of those machines. This schedule includes recommendations for lubrication at various intervals: daily, at the end of each warp, and every six months. The location of each lubrication point is keyed to a number on a drawing of the machine and the type of lubricant is

CHECK LIST adapted by W. J. Dickey & Sons from instructions issued by the loom builder hangs in a transparent jacket on the left side of each weaving machine as shown in photo at left. Below is legible reproduction of this maintenance check list.

WARP CHANGE CHECK LIST
Warner & Swasey Weaving Machines

Name_____Date_____Loom #_____Style_____Pc. #____to_____

CHECK OIL LEVEL IN ALL RESERVOIRS AND ADD OIL IF NECESSARY.

_____3. . . Lower Picking Box Reservoir (Oil #2).

_____9. . . Upper Picking and Tucking Unit Reservoir (Oil #2).

_____21 . . Receiving Box Tucking Unit Reservoir (Oil #2).

_____30,57. Lay Housing Reservoir (Oil #1).

_____71 . . Centralized Lubrication Pump (Oil #1).

_____64. . . Pick and Pick Drive Box Reservoir (Oil #2).

* * * * * * * * * * * * *

_____2,25,27,29,44 . . . Grease

_____49,52,53,72 . . . Grease

_____4 . . . . . Grease

_____6, 23 . . . . . Oil (#1) Operating Handle & Hex Detector Rod Ends.

_____8, 20 . . . . . Remove Cover, Clean out packed lint, & spread on a thin film of grease. Oil (#1) all pin joints.

_____18 . . . . . Remove Brake Cover Plate. Clean & Grease Shuttle Brakes.

_____19 . . . . . Remove Reiurner Cover & Oil (#1) two pin joints.

_____22 . . . . . Remove Receiving Box Cover & Oil (#1) all pin joints & sliding parts.

_____24 . . . . . Grease Main Drive Clutch Yoke Bearing & One Direction Clutch.

_____26 . . . . . Oil (#1) all pin joints in Clutch & Brake.

_____28 . . . . . Oil (#1) Friction Clutch Lightly.

_____1,31,54 . . . . . Grease two fittings.

_____32 . . . . . Remove Covers, oil (#1) all pin joints & sliding parts.

_____36, 61 . . . . . Remove middle Truck, Grease slides & links.

_____40 . . . . . Oil (#1).

WARP CHANGE CHECK LIST
Warner & Seasey Weaving Machines

Name_____Date_____Loom #_____Style_____Pc. #____to____

_____42 . . . . . Oil (#1) Manual Harness-Leveling Levers & Harness Cam-Roller Arms.

_____43, 69 . . . . . Apply Oil (#1) with rag or brush.

_____56 . . . . . Grease tops of Levers Lightly.

_____59 . . . . . Oil (#1) Conveyor Drive Shaft.

_____60 . . . . . Remove Temple Roll, Assemblies, clean & grease Temple Rolls.

_____67 . . . . . Add grease to Worm Gear Reservoir.

* * * * * * * * * * * * *

_____Check and clean temples.

_____Check condition of filling brake shoes.

_____Check condition of filling cushion.

_____Check condition of filling detector wire.

_____Check condition of tucking needles.

_____Check for loose, worn or bent guide teeth.

_____Check adjustment of shuttle brakes.

_____Check adjustment of detector system.

_____Check adjustment of clutch and brake hand.

_____Check harness cams and adjustment of roller arms.

_____Check sprocket ratio and shed timing.

_____Check pick gears.

_____Check setting of receiving box to reed width and timing of #2 expeller.

ALL WARP AND FILLING YARN LEFT OVER MUST BE MARKED AND PUT IN BASKET.

new progress.

Individuals interested in attending the conference are requested to send in their applications to the Director. Each applicant must state the institution or company with which he is connected and the type of work in which he is most interested. Attendance at each conference is limited to 100.

Requests for attendance at the conferences should be addressed to W. George Parks, Director, University of Rhode Island, Kingston, Rhode Island. From June 11 to August 31, 1956, mail should be addressed to Colby Junior College, New London, New Hampshire.

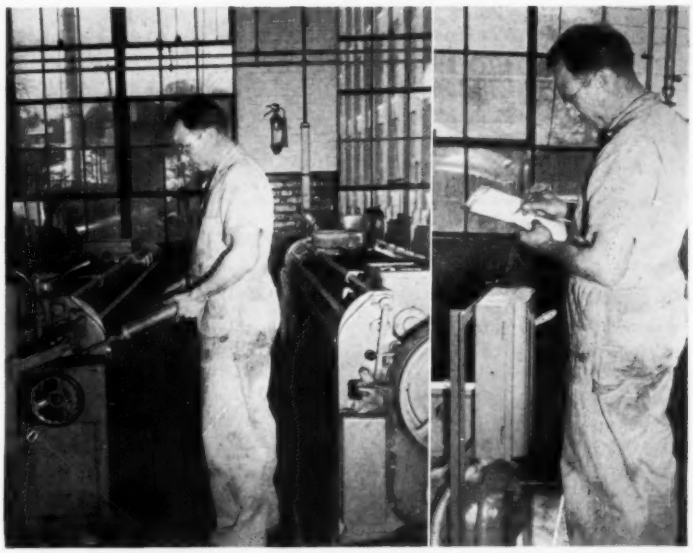
List For Warner & Swasey Weaving Machines

specified (see illustration p. 130).

Using the lubrication schedule as suggested by Warner & Swasey as a starting point, W. J. Dickey & Sons, Oella, Md., have devised their own lubrication and maintenance system.

The daily and semiannual lubrication schedule is used almost exactly as it appears on the W & S chart. This schedule, shown in an accompanying box (below), is hung in the fixers' work-bench area. The 18-point daily schedule has been divided to allot a part to mechanics on each of the three shifts; two of the points have been assigned to the weaver.

The warp change schedule has been expanded to include lubrication, and parts condition and adjustment examination. The schedule has been assembled on a two-sheet check list and is hung in a transparent protective envelope on



AT THE WARP CHANGE, this list is used as a guide for lubrication. Grease gun is wielded by Bill Willingham. Right: Check-off is made after each maintenance function is performed; all parts are referred to on this list by number.

Daily and Semiannual Lubrication Schedule Warner & Swasey Weaving Machine

1. Daily

First Shift Fixer

Part No.

7 Oil (#1) centering fingers and scissors *lightly*.
15 Remove back conveyor cover, clean and oil (#1) with oily rag.
34 Oil (#1) two places on shuttle feeder openers.
35 Apply light film of grease to upper surface of middle track, and shuttle feeder slide block.

Second Shift Fixer

38, 65 Oil (#1) pivots and rolls, three levers.
41 Oil (#1) all moving parts of let-off linkage.
57 Apply grease to whip roll ends.
58 Apply grease to torque tube bearings.

Third Shift Fixer

62 Oil (#1) bearings.
66, 70 Oil (#1) all pin joints and sliding parts of pick-back.
72 Oil (#1) pick-back yoke shoes, clutch, and pawls.

Once Per Shift Pick-and-Pick Looms, Daily All Others

16 Remove expeller box cover, clean and oil (#1).
33 Clean lint accumulation around lifter stop and grease shuttle opener lightly.
39 Clean out picking area lint accumulation.

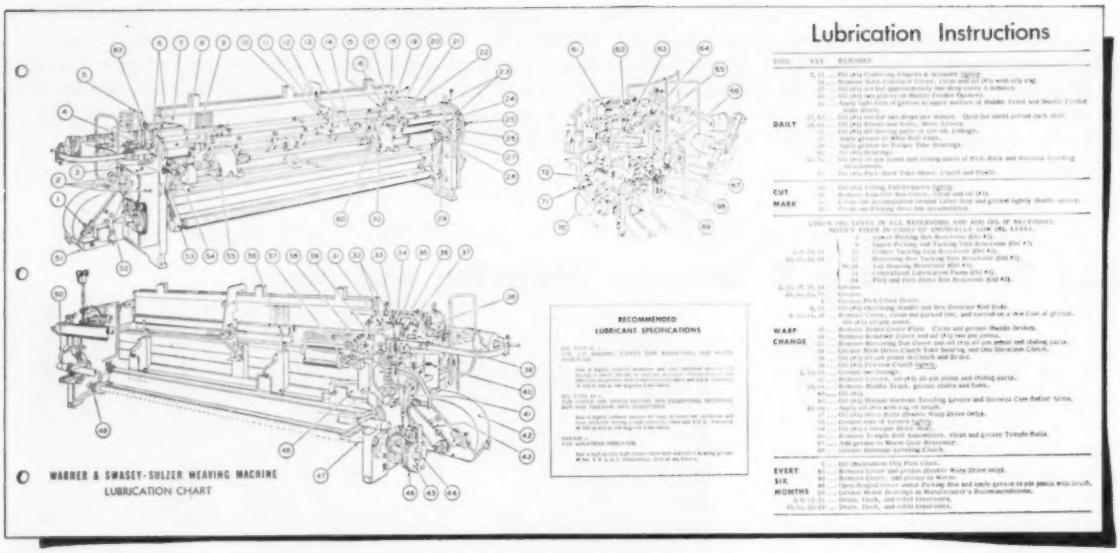
Each Weaver

Part No.

37, 63 Oil (#1), set for two drops per minute. Open for short period each shift.

2. Semiannually

5 Oil (instrument oil) pick clock.
46 Remove cover, add grease to worm.
48 Open hinged cover under picking box and apply grease to pin joints with brush.
50 Grease motor bearings to manufacturers recommendations.
21, 3, 9 Drain, flush, and refill reservoirs.
30, 51, 55, 64 Drain, flush, and refill reservoirs.



LUBRICATION INSTRUCTIONS supplied by the loom builder.

each loom.

When a warp runs out, the fixer goes down the list, lubricates, examines, or adjusts each point, and checks the points off on the list as he does.

This check list is shown (at the bottom of p. 128), and its use is illustrated in the photos.

Sales Yarn Spinners Learn of New Orlon Developments

STAFF REPORT

ON JANUARY 31, 1956, 200 men representing 50 mills gathered in Wilmington, Del., to participate in Du Pont's second Sales Yarn Spinners' Conference.

The meetings scheduled were designed to review the latest techniques used to manufacture and market "Orlon"* products and to propose development of new uses and techniques.

Orlon Developments. Pointing to the recent inclusion of 470,000 denier tow and increased shrinkage in high shrinkage staple to regular production, Ambrose W. Staudt of Du Pont's Orlon Technical Service described several other technical developments in various stages of progress:

(1) A regular Orlon staple of lower and more uniform shrinkage, now in mill testing stages.

(2) Production of 4½ and 6 denier Orlon in commercial staple and tow; production of 1 denier for fine count spinning (now experimental but to be available in semi-commercial production in late second quarter 1956); production of 10 and 15 denier staple in laboratory stages.

(3) 2, 3, and 4½ denier per filament tow, high shrinkage type, in production for use on the Pacific Converter.

(4) Color-sealed black staple in commercial production with black tow available during second or third 1956 quarter.

(5) Type 39 Orlon now coming into commercial production; this is a blend of different deniers and staple lengths designed for wool system spinning.

(6) A whiter and more dyeable type of Orlon now being evaluated on a small scale.

Significance of New Developments. James W. Bolmeyer, of Du Pont's Orlon Technical Service, and Lee Bidgood, Jr., of Du Pont's Dyeing and Finishing Technical Service, projected these new Orlon variations to mill usage.

Using the new 4½ and 6 denier per filament products with standard 2 and 3 denier will allow production of yarns and fabrics with more resilience and body (this is particularly important in broadening the types of knitwear that can be made, such as men's sweaters). For example, use of 2 or 3 denier with 4½ denier in yarns for a more firm classic sweater; use of 3 denier with 4½ denier in fine gauge jersey fabrics for dresswear and blouses; use of 3 or 4½ denier with 6 denier in yarns for outdoor type sweaters, award sweaters, bulky knits, etc.; use of 3 denier regular shrinkage fiber and 4½ denier high shrinkage fiber in 100% or in combination with wool for jersey.

The whiter staple under development may not require bleaching and will be a durable white; chem-

*Du Pont's acrylic fiber.

icals currently used for bleaching Type 42 Orlon are dangerous.

Further implications of the white staple, considering the new 1 denier product, should open up use of Orlon for men's shirts.

The improvement in dyeing the new staple will be about 40 per cent; for example, a jet black can be dyed in about 3 hours at 205 F. Important from the delivery standpoint, particularly on fine gauge jersey, the shortened dyeing cycles should also mean better weight control and rope mark reduction. In sweaters, reduced dyeing time should mean better garment size control, fewer creases.

During the changeover to the whiter staple, it was pointed out, new dyeing formulas will have to be developed by dyers, and mills making yarn and fabric must properly identify new and old production.

Dyeing Progress. Recent developments in wet processing Orlon and blends containing Orlon were discussed by Dr. Burt F. Faris of Du Pont's Dyeing and Finishing Technical Service. They included tow dyeing, skein dyeing, and a new procedure for dyeing Orlon-wool blends.

Dr. Faris told of the development of tow dyeing to the point where it is now a practical process used to accomplish the following:

(1) In knitwear, to achieve uniformity of shade and garment size, obtain patterns in high bulk yarns, and eliminate rope marks and creases;

(2) In woven goods, to obtain surface cover on yarn dyed fabrics, and to achieve lightness and bulk in fancy work.

Tow dyeing will open up new end uses for Orlon in such items as knitted coatings, suitings, and jersey, and in woven fabrics such as tweeds.

Skein dyed yarns are in use for hand and machine knitting. It was pointed out that sweaters knit of skein dyed Orlon should be tumbled at 230 F for 30 minutes to produce a hand comparable to a strip dyed high bulk article. The significance of skein dyed Orlon lies in the inventory advantage of dyeing small lots and at the same time making a fabric which has the same advantages as tow dyed Orlon.

Questions and Answers. Technical problems originating from the spinners present at the conference were directed to a panel of Du Pont specialists. Some of the discussion follows:

Q. Do high bulk Orlon knitting yarns lose shrinkage on storage?

A. Not under normal conditions of temperature and humidity.

Q. Do 4½ and 6 denier per filament blends improve surface distortion (including pilling)?

A. Yes, they resist tangling in the fabric.

Q. Is an anti-static finish required for Orlon spun on the cotton system in cold weather?

A. Normally the finish on the fiber as delivered is adequate, but in cold weather application of an anti-static agent such as Zelec NE (.25 per cent on weight of fiber) is helpful. If a lubricant is needed, Nopco's LV 40 (.8 per cent on weight of the fiber) is suggested.

Q. How is wool blended with Orlon tow on the Turbo Stapler and Pacific Converter in proportions such as 80 Orlon-20 wool?

A. On the Pacific Converter, this can be done on the machine itself by using the blending attachment or on the first step after the Converter. On the Turbo Stapler, blending can be done during converting, provided the wool fibers are not broken; it can also be done on the first operation after converting.

Q. What is the preferred doubling figure for running blends on the Turbo Stapler?

A. 1500 to 2000 is satisfactory with one gilling operation, 2 or 3 Pin Drafter operations, roving, and double or single roving spinning. Variation can be blended out by cross mixing lots as well as by the doubling technique.

Q. Are colors other than black being planned for color-sealed Orlon staple and tow?

A. No.

Q. Is it cheaper to dye sweaters made from the new, whiter, and more dyeable fiber than sweaters made from the currently available fiber?

A. To date, quality and depth of shade potential are more of an advantage than are cost considerations.

Q. Will six-division tow be delivered to tow dyers?

A. Current tow deniers as delivered will not be reduced.

Q. Can Orlon-fur fiber blends be dyed?

A. Yes, technology is available for this.

Q. Will the new, whiter, more dyeable fiber take the place of the current natural tow?

A. Yes, when it is ready late this year.

Q. What is the reaction in the trade to the Du Pont recommendations for twist levels to reduce fabric distortions?

A. Mixed. Increased twist is generally well taken by spinners; knitters have been slower to accept this.

Q. How is surface distortion (including pilling) measured?

A. The pills per unit area are counted, and pills evaluated and defined by passing a needle through them. A subjective analysis is also practiced by submitting to a panel to judge human reaction to a fabric.

Q. Will the new 15 denier Orlon staple be evaluated as a carpet fiber?

A. Yes.

Q. What about Ban-Lon for sweaters?

A. This is an important new development, and it is felt that it will have a place.

Q. Is it necessary to change the percentage of high shrinkage Orlon when changing from fine to coarse denier high shrink fiber in 70-30 and 60-40 yarns?

A. If 4½ or 6 denier high shrink Orlon is used instead of 3 denier, it is felt that the same number of fibers must be present as with the 3 denier so that an increase in percentage by weight using the heavier material is indicated.

Q. What is the effect of coarse denier per filament Orlon on the hand of high bulk yarns?

A. If the low shrinkage component of the yarn is coarse, the yarn will be coarse. If the high shrinkage component is coarse, fabric resilience and snap will increase.

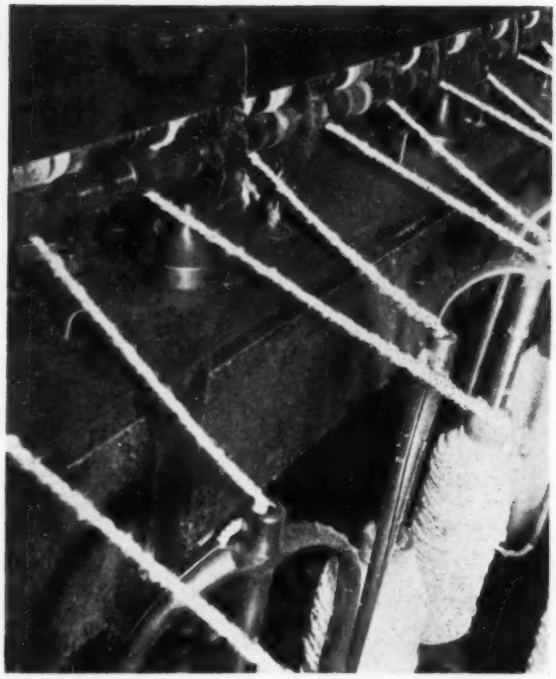
Making Cotton Mop
and Carpet Yarns

How to Convert a Slubber for Twisting Coarse Yarns

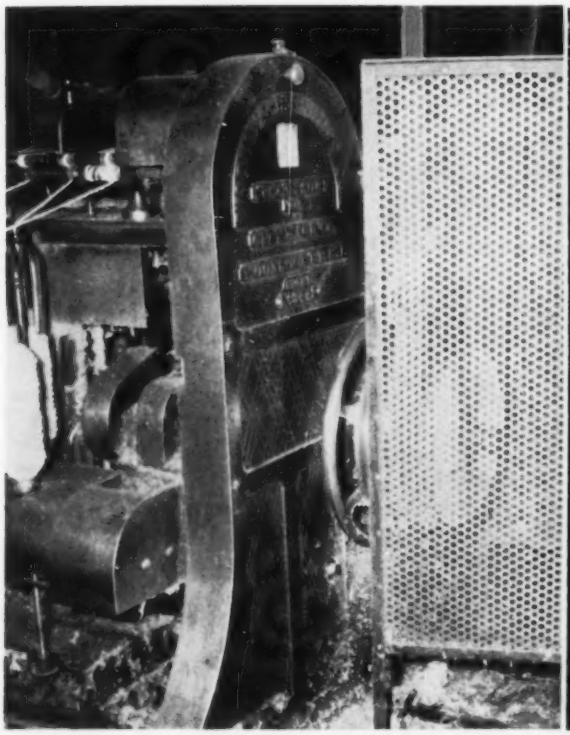
STAFF PREPARED
EXCLUSIVE

Maplewood Yarn Mills, Fall River, Mass., specialize in producing heavy plied yarns for carpet weaving and for mops. The plies, which may run as coarse as 8s/24, cannot be made on conventional equipment, and machines designed especially for that purpose are scarce.

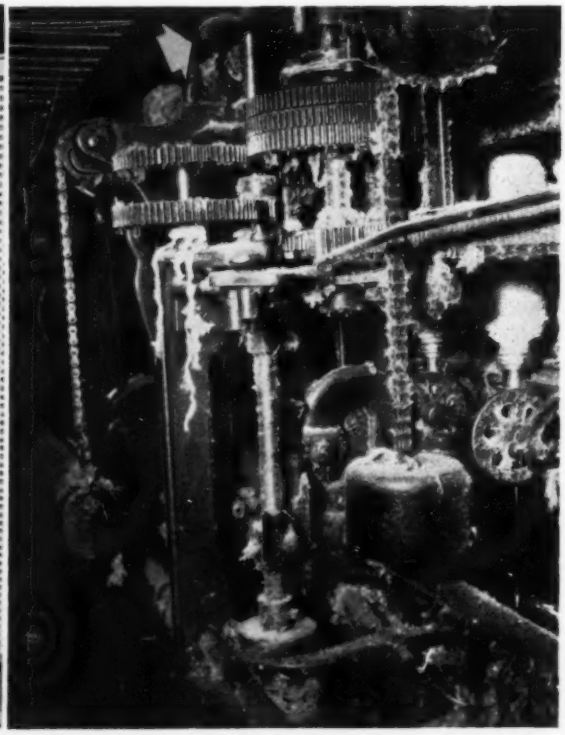
On this and the opposite page is a picture account of how the mill uses some old Woonsocket slubbing frames as twisters for the heavy yarns, and what was involved in adapting the machinery for the job.



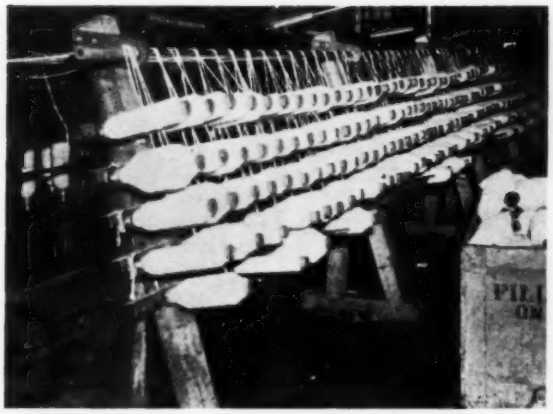
.90s/4 COTTON is being delivered to flyers of this converted 12 x 6 Woonsocket slubber at 2½ tpi. Average sizes run on this frame and others like it range from .50s to 1½s in count, and from 3 to 5 ply; 8s are also run in plies from 10 to 24.



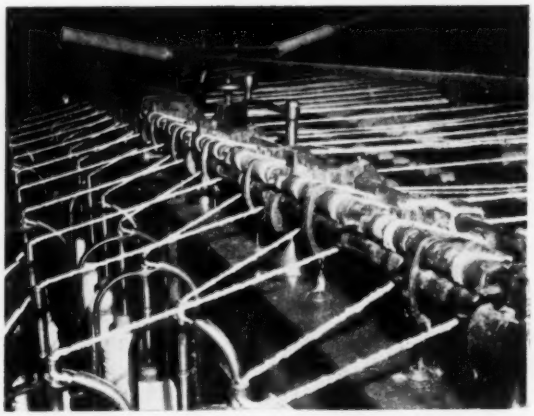
DIRECTION OF MAIN SHAFT WAS REVERSED to produce standard S twist required for the mop and carpet plied yarns.



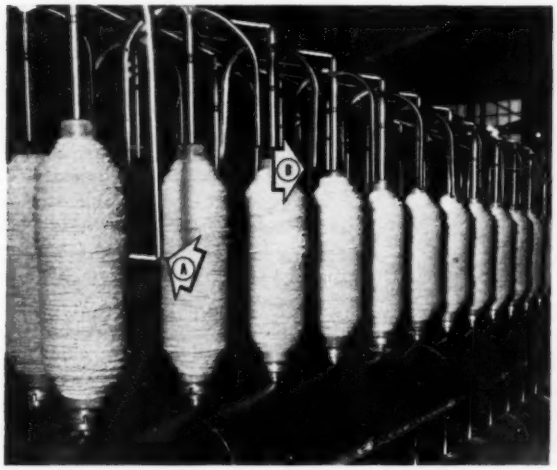
CONTACT SHAFT WAS EXTENDED and skip gear (arrow) repositioned to mesh at top rather than bottom of top cone bevel gear.



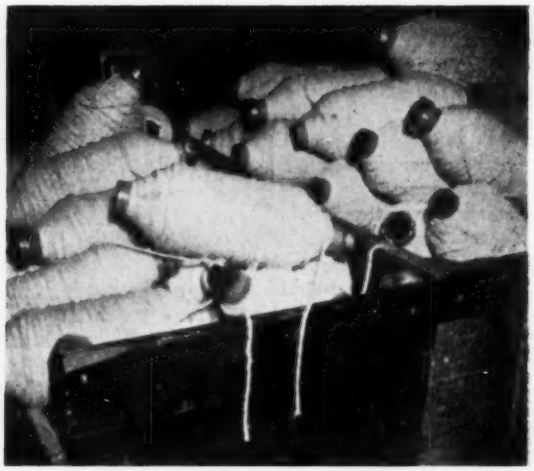
CREELS accommodate bobbins from 4-inch-ring spinning; this is a 5-ply creel, others are as high as 8-ply. With very high plies, only every other flyer can be used.



ONLY FRONT ROLLS ARE USED; middle and back rolls were removed. Lay, twist, and tension gearing remain the same; and change gear calculation is as usual.



PRESSERS WERE REMOVED (arrow A) so coarse yarn won't get caught and tangle; opposite arm of flyer (arrow B) was cut down for balance.



DOFFED PLY YARN is on standard 12 X 6 roving bobbins, ready for skeining and transfer to the Maplewood dyehouse.

Suggestions for Proper Storage and Handling of Lubricants in the Mill

What can happen when lubricants are not properly handled at the mill was presented in the March, 1956, issue of TEXTILE INDUSTRIES *(pp. 111-112). This is a continuation of that article which was extracted from the magazine "Lubrication," a publication of The Texas Co. devoted to the selection and use of lubricants.*

Every plant, regardless of how large or small may be the lubricant requirements, has a problem by the mere fact that lubricants must be stored and handled. Because no two plants are exactly alike and because numerous local factors must be considered, the problem is more or less specific for each individual plant. A scheme which is suitable at one place may be entirely unsatisfactory at another. However, there are some basic rules and some "do's" and "dont's" which apply to all storage and handling operations, and which should be observed. Some pertinent suggestions which may be helpful are presented as follows:

Unloading. Most lubricants are delivered to the consumer by train or truck.

(1) For easiest and simplest handling of drums, there should be an unloading platform which is level with the truck or freight car.

(2) If there is no unloading platform, use a ramp and slide drums endwise to ground level, or use a lift truck.

(3) Do not drop drums from truck or freight car to a cushion, such as rubber tires. Drum seals

can be split and leakage will occur.

(4) Simple rolling of drums is satisfactory for transferring drums from unloading to storage area if distance is short.

(5) For long distance transfer, hand trucks, lift trucks or metal tracks place less strain on the seams.

Storage. (1) Choose storage area carefully. Select a central location so that hauling distances are as short as possible. Also select an area where the atmosphere is free from dust and vapors.

(2) Store lubricants indoors if possible — chances of contamination will be less.

(3) If stored outdoors, drums should be placed on their side and on racks — don't lay them on the ground. When placed upright on end, rain water may accumulate and be sucked into the drum by the normal breathing action. If stored outdoors on end even temporarily, cover should be available to place over drum in the event of inclement weather.

(4) Indoor storage area, whether a separate building or whether it is a shared space, should be fireproof, have brick, tile or concrete walls and floors, and be fitted with suitable drains. Wood-work, in addition to not being fire-proof, is more difficult to keep clean.

(5) Cleanliness is essential regardless of whether storage is indoor or outdoor. For indoor storage, area should be painted in light colors, preferably white. Maintain regular cleaning schedules.

(6) Orderliness is another must. By keeping different brands and types of lubricants separated and in their proper places, there is less chance for confusion and error.

(7) Don't store more products than necessary. The lubricant supplier will be glad to make a plant survey of lubrication requirements with a view to keeping the number of different products to a minimum. This also will reduce chances of confusion.

(8) Exercise extreme care in heating products that have been exposed to low temperatures. If possible, transfer drums to a warm area and allow product to reach room temperature. If more rapid heating is required, use exhaust steam. Never apply direct heat, such as a flame, to exterior of the drum. This would melt the sealing compound and cause leaking. It might also harm the product.

(9) Remember that exposure to temperature extremes can damage lubricants. If there is any reason to suspect that this condition has occurred, *examine the lubricant before using.* If the product appears abnormal, consult the lubricant supplier as to what to do. The lubricant may have to be discarded or it may be salvaged.

Dispensing. (1) Whether the plant be small or large, the dispensing of lubricants should be supervised by personnel thoroughly familiar with lubricants and lubricant requirements. This is a vulnerable link in the chain of operations that connects the source of the lubricant with its application.

(2) The actual mechanics by which the lubricant is transferred from its storage container to the point of application and the transfer equipment used will depend upon the particular plant involved. Transfer pumps are available which fit the standard grease or lubricant drum and permit the product to be removed from its original container with no danger of contamination, waste, or mess. By means of such pumps, lubricants can be transferred to smaller units such as portable power guns, hand guns, or small containers, and thence to the point of application.

Schemes can be devised for applying the lubricant directly from the drum, thus eliminating the intermediate transfer operation. For example, a drum equipped with a pump, hose, and control valve can be mounted on a dolly and brought directly to the spot where the lubricant is needed. Also a system can be devised whereby the lubricant is piped from the drum to the area where it is required, and hoses connected to the pipe outlets carry the lubricant directly to the machine.

Even for equipment which has centralized lubricating systems, arrangements can be made to transfer the lubricant directly from its original drum.

(3) All equipment used in transferring lubricants should be located in a central spot and should be kept clean.

(4) Where many different lubricants are used, a simple code system can help avoid confusion. The code, whether it be alphabetic or color (be careful of color-blindness) should be clearly evident on the drum, the transfer equipment, and the point of application.

(5) Keep accurate records of the lubricants used and use old stock first.

(6) Keep the oil dispensing area clean — don't let spilled or drip oils accumulate — they are a safety hazard.

(7) Keep fire protection equipment handy.

Warping Package-Dyed Yarns? Try This

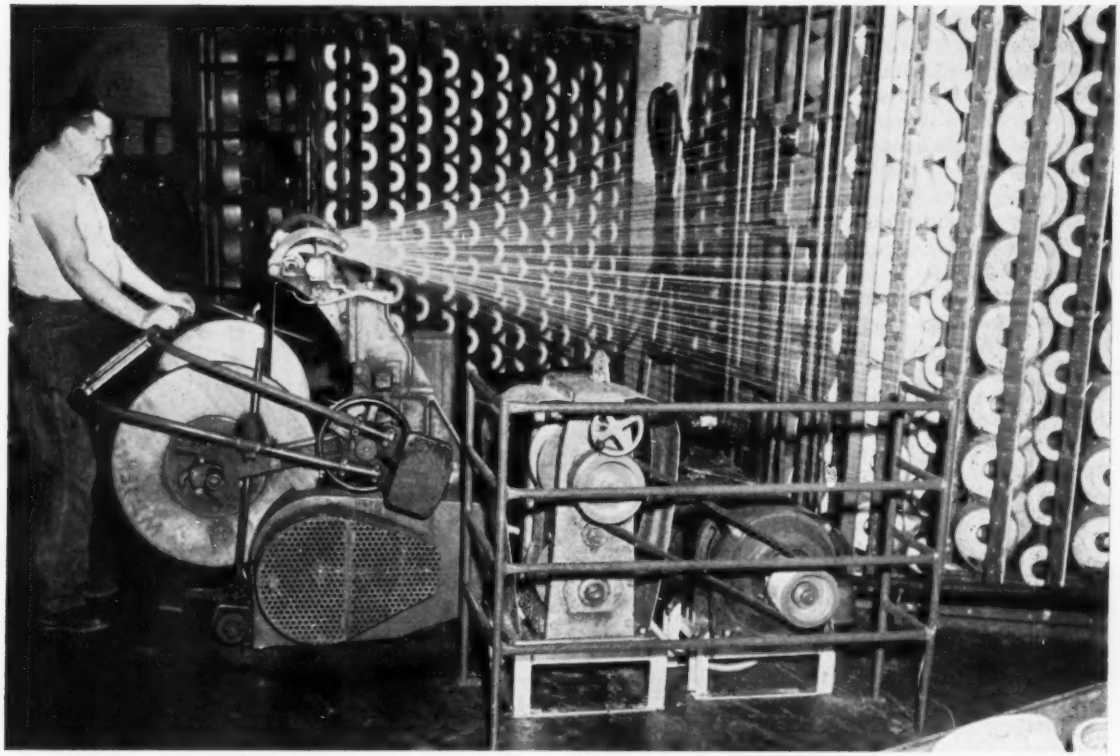
STAFF PREPARED

EXCLUSIVE

A SURPLUS variable-speed Reeves drive was connected to a Barber-Colman warper (see accompanying illustration) running 40s/1 combed yarn from dyed cheeses at Bath Mills, Bath, S. C. A notable improvement in running colored warps was obtained by the variable speed feature.

Before installation of the variable speed drive, the yarn breaks were excessive as the cheeses were wound down to a smaller size. 20 per cent more yards are now wound off the same packages.

The Reeves drive permits a reduction in speed in winding the last several thousand yards to reduce stops (breakage) caused by the ends being stuck to one another and being rolled from winding as well as dyeing. The improvement was noted only in warping colored yarn. Rolled yarn on the cneeses is made more difficult to



WARPER SPEED IS EASILY CHANGED by turning handwheel on variable-speed unit pictured here between drive motor and warper.

handle upon dyeing.

Since more yarn is wound from each cheese, considerable time is saved in backwinding dyed pieces. The drive also permits more warper production by prolonging the run of yarn in creel.

The drive provides a minimum operating speed of 465 yards per minute, and a maximum of 920 ypm. Optimum speeds are established between these figures, depending upon factors affecting warper stops.

This drive has been in operation for nearly a year, and has given no trouble or maintenance problems in this application to date.

HOW ACCIDENT HAPPENED is reenacted by Johnnie McBride (left) and Charles Brown.

Safety Practices Save Eyes of Two Men at Jackson Mills

JOHN A. McBride and Charles E. Brown of Iva, S. C., recently became members of the Wise Owl Club of America, a chapter of which organization was recently established at Jackson Mills. They earned their memberships in the club by wearing eye protection at the time of an on-the-job eye accident.

The goggles the men were wearing kept hot lead from spattering in their eyes, thereby preventing an injury or loss of their vision, according to M. E. McDonald, safety director of Jackson Mills.

The two men were pouring molten lead into a large caulked pipe joint when an explosion occurred, showering the area with the hot metal. The eye protection equipment worn by the two men was thoroughly spattered by the hot lead—evidence that both men would have sustained serious eye injuries had they not been wearing the goggles for protection.

Too much moisture in the pipe joint was given as the apparent

cause of the explosion.

Sponsored by the nonprofit National Society for the Prevention of Blindness, the Wise Owl program is credited with saving many millions of dollars in compensation costs alone since it was first established in 1947. The savings in terms of production, purchasing power, and family welfare are reported to be incalculable.

In forwarding membership certificates for Messrs. McBride and Brown, James E. O'Neil, director of Industrial Service of the Society, said: "Welcome to the ranks of those who, by their own experience and foresight, have shown that industrial blindness can be defeated. We join with you, your families, and your employer in giving thanks that your vision was saved."

EXAMINING CHARTER for local chapter of Wise Owl Club are P. H. Burrus, Jr., vice-president and general manager (right), and B. T. Morgan, Jr., superintendent. M. E. McDonald, personnel manager (left), and S. W. McMahan, overseer of the shop, observe.

How to Determine Spinners' and Doffers' Work Loads

Side spinning with major cleaning duties eliminated improves quality and reduces costs

Piece-rate doffing by the box or doff, with optional incentives, increases production

BY MALEY CHAGRO

EXCLUSIVE

PERHAPS NO OTHER tasks in the mill receive more detailed study than the spinning and doffing tasks. Closely interrelated with each other, both have so many variables that they tax the ingenuity of the overseer on occasion in determining the best methods to employ to get maximum production, top quality, and reduced costs.

Spinners' Work Loads

There are many methods in use today in spinning, for example, that can be defined as spinning without cleaning*, or "side spinning," or spinning with limited cleaning. Some mills combine spinning and doffing with or without cleaning duties. Again, some mills include major cleaning duties in the spinner's task.

Most spinners dislike cleaning duties and would rather take on more sides. It is not an uncommon sight to see many ends down where the spinner's task includes many cleaning duties, especially when the spinner doesn't stop cleaning until the task is done.

In one large northeastern mill of well over 60,000 spindles, the spinner's task in one division of the department included major cleaning duties, all cleaning above the ring rail including the ring rail and rings. In another division the task included spinning, doffing, and cleaning. In this division quality was almost invariably affected, although production was well maintained because the spinners were getting paid by the hank. Good housekeeping suffered because many of the aisles were cluttered with doff trucks, and full doffs in boxes were laying indiscriminately in the side and end zones.

When this mill decided to change all spinning tasks to side spinning with very limited cleaning, many favorable factors had already been rvealed, through a comprehensive time study, to influence the decision. Even without a time study or standards department, any overseer can quickly make up a chart similar to the one illustrated and assign an observer who thoroughly understands spinning to record the vital information. With the basic chart all tasks are quickly determined.

Unit time per occurrence varies, of course, in many mills; and from the basic data, when subjected to further study, better methods were evolved which substantially reduced the unit time per occurrence of many cleaning operations.

A close study of the chart, plus additional data, determined the task under this method and furnished the necessary statistics for side spinning with limited cleaning. *(Continued next page)*

*See "Spinners Spin, Cleaners Clean," TEXTILE INDUSTRIES for Sept. 1954, pp 130-136.

Most operations listed on the chart are self explanatory. Under clearers were cleaned every eight weeks, and this task was prorated at one-eighth weekly. Average weekly roving changes were determined in the following manner: Roving fed was two-end (10 oz bobbins—1.25 lb). Lb per spindle @ 90%—0.60 lb. 1.25÷0.60= 2.083 weeks elapsed running time of the roving. 2.083 × 40 = 83.32 elapsed running hours. 83.32 × 60 = 4,999 elapsed running minutes.

Roving one side: 200. 4,999 ÷ 200 = 24.99 min for each average roving change. 2400 min per week ÷ 24.99 = 96 average weekly roving changes, one side. Ends down per 1,000 spindle hours=30 (3%). This is the equivalent of .03 ends down on one spindle per one spindle hour. Thus: .03 × 100 (spindles per side) × 40 = 120 average ends pieced on one side weekly.

Efficiency was determined at 85% (15% allotted as rest) and this reduced the sides which would have been tended had the task been determined on a 100% basis. The task, however, had to be tended for 40 hr (2400 min) although the task was calculated by dividing 2040 min (actual working min required @ 85%) by actual working minutes of the one side analysis — 208.50. 2040 ÷ 208.50 = 9.8 (actually a 10-side task). This was the allotted task in use under this method.

Eliminating all cleaning factors for a spin-without-cleaning task, with only piece ends and put in roving operations, the calculated task was: 2040 ÷ 64 = 32 sides. This task loomed as a large area to patrol, but by adding three minor but important cleaning duties—brush and clean rings, pass passboard, clean side ring rails—the task was reduced to 24 sides. Brush and clean rings was always done on the doff, which in this case was an 8-hr doff interval, hence five occurrences per week.

Specializing the spinners in the division that included major cleaning duties in the spinner's task resulted in a sizeable cost saving in the reduction of at least half the spinners on most tasks and more than half on others. Quality was improved because the spinners no longer had to clean and pick rolls and forgetfully piece broken ends with oily and grimy hands.

Many of the displaced spinners were offered and accepted new tasks which came into being on the changeover. One such task known as "top cleaning" included all cleaning tasks except cleaning and picking rolls and cleaning under clearers. Pneumatic roll pickers were installed and this task also became specialized. A box-like device was made that contained a roller covered with card clothing and operated by hand, to clean the under clearers. The roller was set close to the side of the box and the under clearer was placed between the roller and the side of the box and rapidly cleaned.

One of the most important potential cost saving factors, from a long range view, is that the cost of training a spinner-learner was materially reduced. Under the former method there was a six weeks timetable to train a spinner-learner; under the new method a spinner-learner can master the task in three weeks or even less.

The entire spinning division now has all side spinning with limited cleaning.

Doffers' Work Loads

Shortly after the entire spinning division changeover from the various spinning methods to side spinning with limited cleaning only, a full, comprehensive study was made of the doff tasks. The system then employed was admittedly a perennial headache, and required almost constant supervision to maintain production. Here, too, the doff loads were also admittedly low—26,000 bobbins lifted in 40 hr, and the same for all yarns.

It was not an unusual sight to see 10 or more frames stopped waiting for doff at the shift change, resulting in constant friction between doffers of all shifts. This was not the total for the entire division, but would occur in one section or one room. Many doffers deliberately slowed down an hour or two before the shift change or, knowing the doff intervals of the yarns they doffed, would idle frames after doffing and only start them up again when they knew the frames would doff on the next shift. Supervision was sorely taxed because all doffers were on an hourly rate, and it was difficult to prove a "slow down."

In addition to the supervisor having two rooms to oversee, one upstairs and the other downstairs, the union then in control looked with disfavor on management's efforts to reduce costs, keep production at a high level, and maintain top quality, and all this added to the supervisor's problems of maintaining the tasks at their highest efficiency.

The results of the time studies re-

Basic Data of Spinner's Task With All Cleaning Duties

Yarn: 36s Combed Warp

One-Side Analysis

Spindles Per Side: 100 Operations	Unit Time Per Occurrence Min	Total Occurrences Per Side 40 hr	Total Min Per 40 hr
Brush and clean rings	2.00	5	10.00
Pass passboard	.30	15	4.50
Clean side ring rails	.20	25	5.00
Beam, bottom creel trumpet cleaning	4.00	5	20.00
Clean middle creels	1.50	10	15.00
Clean top creels	1.00	5	5.00
Clean and pick top front rolls	15.00	2	30.00
Clean and pick middle rolls	7.50	1	7.50
Clean and pick back rolls	7.50	1	7.50
Clean back under clearers	40.00	0.125	5.00
Clean and pick flat clearers	2.00	5	10.00
Clean rotary clearers	25.00	1	25.00
Piece ends	.33	120	40.00
Put in roving	.25	96	24.00
Totals			208.50

vealed that the doff tasks should range from 32,000 bobbins lifted for fine yarns and up to 40,000 for coarse and medium yarns in a 40-hr week. These tasks were estimated at between 85% and 90% efficiency, with 10% to 15% allotted for rest or personal time.

The company committed itself to place all doff tasks under piece rate, and under the union contract the company could test new methods for a 30-day trial period.

Many methods were discussed, such as paying by the hank, the use of a device on each frame to record the hanks run on a card which provided an incentive to speed up the downtime of the doff and get the frame into production as speedily as possible, or paying by the box, or doff. The first two were finally discarded because of the many clerical and cost factors. The rated box or doff method was finally adopted because it featured simplified control, less clerical work, and complete supervision under a full time checker.

Rates were established by simply dividing bobbins lifted, one frame or doff, into the assigned doff tasks ranging from 32,000 to 40,000 bobbins lifted. Once the number of boxes or doffs were determined for the weekly task load, they were divided into the standard weekly wages and thus the rate per box or doff was ascertained. There were various rates, even for the same yarns, due to the fact that spindles per frame varied on the three models in use.

The use of the words "box" or "doff" meant that in this mill all filling boxes contained one full doff, and all warp boxes (same size as the filling boxes) contained one-half doff. The doff checker in checking off the doffs would count two boxes of warp as one doff and one box of filling as one doff. The doff checker then recorded doffs on a daily control form, which was transferred to the regular payroll form at the end of the week.

Each doffer was assigned an area to pile his doffs. The doff checker would make two checks each shift, the last one approximately near the end of the shift. Ten boxes on a dolly truck constituted a load, which was shipped immediately to either the conditioning room or warp preparation department. Boxes not shipped, such as part loads, were entered on the control form as doffs on floor but fully credited to the doffer and subtracted from the next check.

Thus a doffer who had 16 doffs at the first check, would be credited with 16. Ten of these doffs would be shipped and six entered under doffs on floor. If there were 24 doffs on the next check, six would be deducted and 18 credited to the doffer, two loads shipped and four doffs entered under doffs on floor.

Very little procrastination resulted on the part of the doffers, because in addition to the control exercised by the checker, the supervisor was also in over-all control and knew every facet of the new method.

Doffers who failed to make the minimum, but who were paid the minimum, had the minimum rate dropped on them. Failing to make the new minimum either resulted in the doffer being dropped from the payroll or, as in many instances, a written warning was sufficient to boost their production. However, most doffers made the minimum easily and were allowed on their rest to doff spare frames or include an extra frame or two into their regular task if on the same yarns. This sort of incentive paid off and many doffers made extra dollars at every opportunity.

The final results of this new method saw production rise to better than normally expected, costs reduced with the new standardized work loads, and the elimination of most of the headaches that go with most doffing tasks.

Special Felt Treating Machine Solves Processing Problem

EXCLUSIVE

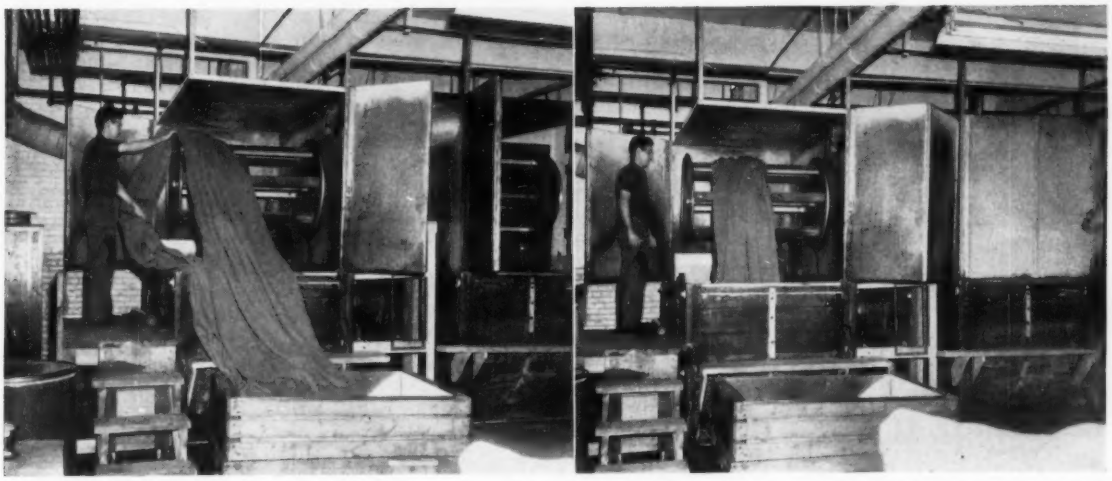
UNTIL the recent redesign of a felt treating machine and installation of a unique set of stainless steel reels at H. Waterbury & Sons Company, Oriskany, N. Y., this manufacturer of papermakers felts was faced with a costly production problem encountered in a special chemical treatment of endless woven woolen felts. These felts are used to convey paper in the wet form through paper-making machines. Waterbury processes this material to provide protection against decay by bacteria and wear by abrasion to assure maximum service.

The machine and the wooden reels that had been employed to rotate the felts through the chemical bath had serious disadvantages. Lengths of felt as long as 250 feet had to be threaded around the reel; the common steel shafts weakened by corrosion would bend under the sustained weight and threatened to break.

While this construction was suitable many years ago, today's conditions required a more permanent reel construction embodying the desirable strength and non-corrosive features of stainless steel. Also the metal parts of the wooden reels would corrode badly, sometimes staining the material.

Waterbury executives called in the Rodney Hunt Machine Company to design and build a set of stainless steel round reels that would overcome the handicaps of the wooden reels. After a careful analysis of the problem, Rodney Hunt engineers constructed a unique stainless steel reel for twin-tubs that would handle simultaneously two lengths of felt ranging from 25 to 250 feet in length, from 4 to 27 feet in width, and varying in thickness.

The unique aspect of this reel is that it is made in two sections and is side-loading. The reels are made without any outboard bearings; this permits a man to simply slide the felts over the end of the reel. The bearings are located inboard together with a common drive

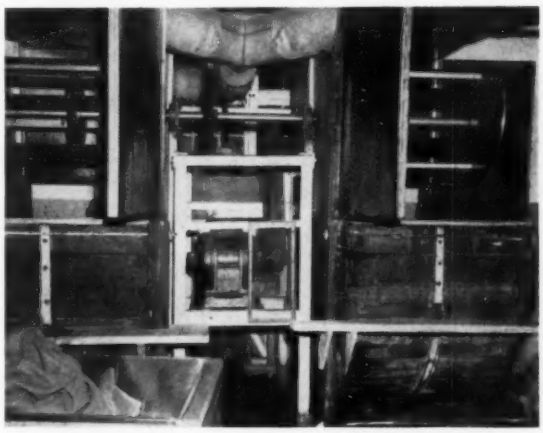


REEL PERMITS FAST SIDE LOADING of endless felt aprons which are to be chemically treated for longer service on paper-making machines. The tandem reel replaced old style wooden reel. Operator demonstrates loading. **Right:** Note piano-hinged doors on sides and fronts of tub housetops. When reel is loaded, doors are easily folded out and close the section as shown at extreme right. Use of these doors saves space and permits fast opening and closing of the reel housing.

gear for both reels. Endless felts are looped around each reel swiftly and easily from the side. After loading, hinged accordion-folded doors are latched together, completely closing the house top. A 5 hp motor through a V-belt drive furnishes the power to both reels.

This called for a special construction on the reel whereby both superstructures could be slid onto the shaft after the gear and bearings were mounted and locked into position. The stainless steel hubs on the two end heads and center support are provided with set screws to lock the superstructure to the shaft. This construction also permits disassembly should the gear or bearings need replacement. Both tubs utilize a mutual exhaust system to take away steam and chemical vapors

It goes without saying that the long-wearing, rugged characteristics of stainless steel combined with ingenious design have completely solved the earlier headache of maintenance and quality control at the plant of H. Waterbury & Sons Co.



COMMON DRIVE for two reel sections is utilized as shown in this close-up photo. Over-all width of the twin-tubs is about 12 feet. Another money-saving feature of the design is that both tubs are serviced by a mutual exhaust system (note Y-duct at top of photo).

Influence of Yarn Size on Relation of Six Fiber Properties to Cotton Yarn Strength Given in Report

A REPORT* recently published by the Agricultural Marketing Service of the United States Department of Agriculture presents results obtained from studies to determine the influence of yarn size on the relation of six fiber properties to skein strength of carded yarn—namely, upper half mean length, length uniformity ratio, fiber fineness (weight per inch—Micronaire), fiber strength (Pressley—zero gauge), percentage of mature fibers (standard method), and grade index.

Included in this study are data representing a total of 842 cottons and 3,267 lots of long-draft processed, carded, warp singles yarn, ranging in size from 14s to 60s, with a semi-hard twist, for three crop years, 1948-50.

The reported findings show that, as yarn size decreased over the range of 22s to 50s, upper half mean length increased in im-

*Marketing Research Report No. 109 — Influence of Yarn Size on the Relative Contributions of Six Cotton Fiber Properties to Strength of Carded Yarn, by Robert W. Webb, cotton technologist.

portance to yarn strength and fiber strength decreased in importance to yarn strength. As the yarn size diminished over the range of 14s to 22s, however, opposite trends appeared for those two fiber properties.

Fiber fineness increased in importance to yarn strength with decrease in yarn size from 14s to 50s.

The three other quality factors studied—length uniformity ratio, percentage of mature fibers, and grade of cotton—made small contributions to yarn strength and showed no perceptible trends with yarn size.

The evaluated contributions of upper half mean length and fiber strength to strength of each 22s, 36s, and 50s yarn appear to be in proper sequence, the author said. The evaluated contributions for those two factors to strength of 14s yarn, however, appear to be out of line.

A discussion of the discrepancies in results obtained for 14s yarn is included in the report.

"Will This Paint Prevent Mildew?" Only a Mill Test Can Tell You

SAMPLE COATINGS on this duct are about one year old, with no sign of mildew yet. When all ductwork needs refinishing, samples are examined to see which is in the best condition. Sample in best condition is selected for the whole job.

BY R. M. WATSON
Plant Engineer

EXCLUSIVE

THERE ARE many ways available for gathering information concerning new products. Among these are reading trade and professional magazines, attending shows and conferences, visiting other plants, and of course, contact with sales people. However, there is one fault common to all these: The conditions in your plant are always a little different from those in any other plant, and you wonder if that little difference will affect the performance of the product in which you are interested.

In other words, you have a question in your mind—"Will this product do the same job for me, under the existing conditions in my plant?" You will never get the answer to that question until you try the product in your plant, under your operating conditions.

Try It. If you are to get the answer to this question, without actually adopting the product for general use, your only recourse is to test the product under your operating conditions. This of course is impractical in a great many instances. For example, years ago in the early days of fluorescent lighting, I conducted a very elaborate test of fluorescent tubes of four different manufacturers. Without going into details of the testing procedure, you can believe me that at the end of the test I *knew* which of the four tubes was the best.

The knowledge was practically useless, however, because in the meantime all four of the manufacturers had made improvements in their products. Yet in other instances it is relatively simple to conduct a running test which is always up-to-date. So it is with mildew-resistant paints.

In the textile industry, nearly all of us are plagued with a mildew problem to some degree. The paint manufacturers are well aware of the extent and seriousness of the problem and are very actively engaged in trying to formulate effective mildew-resistant paints. The problem is not a simple one. There are many different types of mildew spores. The conditions under which they exist are as many and as diverse as the number of mills in the industry.

No two mills present exactly the same facets of the problem. An inhibitor which proves effective under some conditions may cause a paint to yellow, or lose its whiteness, under other conditions. An inhibitor which is very effective at first may not retain its killing power more than six months or so. On the other hand, an inhibitor which is not 100% effective during the first few months may arrest any further growth for the next six to twelve months.

Despite many complications, most of the leading paint manufacturers have "joined the battle," and tremendous progress has been made in the past few years. Because of these same complications, as many of us as can should carry on a test program in order to aid in the development of better inhibitors as well as to provide ourselves with the most effective formulations for our own particular conditions.

Our Problem. In our mill, which happens to be an old one, prac-

tically all the manufacturing areas have central station air conditioning, and about 90% of these areas also have refrigeration. The windows are bricked-up and the roofs are insulated.

Thus, our mildew problem is confined to the weaving area, where we operate under relatively high humidities. In this area, the walls and ceilings present no problem but the air conditioning ducts offer almost ideal conditions for mildew growth.

Conditions. The apparatus serving the zones where cotton fabrics are woven operate at a dew point of 72 F. Saturated air at this temperature is carried into the weave room through the distribution ducts—which in our case are made of galvanized iron.

As the air enters the room and begins to warm up, the moisture content is further increased (by means of atomizers located throughout the zones) until an operating condition of 80% relative humidity and 82 F dry bulb temperature is reached and maintained. At this condition the dew point of the air is 75 F.

Thus, the surface temperature of the main duct, carrying the 72 F saturated air, before it has time to warm up, is at or slightly below the dew point (75 F) of the room air. Therefore, the surrounding room air coming in contact with the duct surface is cooled to its temperature, at which of course the relative humidity is at or near 100%.

As a matter of fact, we have a slight condensation on the duct surface near the entering point to the room. As mentioned before, this cool surface, surrounded by warm moist air presents an ideal condition for the growth of mildew. And since this condition prevails the year round, mildew is not a seasonal problem but is with us constantly.

In many mills, mildew grows on the walls and ceilings only during the winter months when the surfaces are cooled by low outside temperatures. Thus, in order to evaluate a mildew-resistant paint, it is necessary to wait through one or two winter seasons.

On our ducts, mildew grows just as fast during the summer as it does in the winter. When these galvanized ducts were installed in 1945 they were painted with our regular mill white gloss over heavy duty undercoater. Within weeks mildew growth was very unsightly. In six months, the main supply ducts were practically black with mildew.

By the end of one year, even the remotest ends of the branch distribution ducts were covered.

The Tests

1946—We washed the ducts with trisodium phosphate to remove the mildew and repainted with a two-coat job. As soon as the finish coat hardened, we applied a wash coat of bichloride of mercury solution. This was effective for two or three months, but by year's end the condition was just about as bad as before.

1947—Again we washed the ducts with trisodium phosphate; again we repainted with a two-coat job. This time we used a high quality, synthetic resin enamel for the finish coat, hoping that the synthetic base and the hard finish would present a natural resistance to mildew. It didn't.

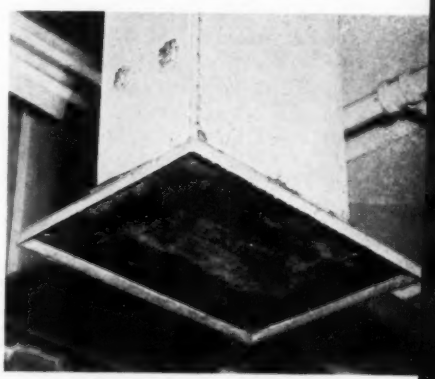
1948—By now, we had done quite a bit of looking around for mildew-resistant paints. My previous experience had been that so-called mildew-resistants were largely ineffective. It was impossible to sift the claims and counter-claims of various suppliers and pick the best one.

However, we picked one out of the hat and repainted. Again a wash job and two coats of paint. This time we painted four panels of the duct, in the most critical area of the room, with other manufacturers' mildew-resistant products. None of the paints was really satisfactory. However, our "running test" had been born.

1949—We selected the best of the four samples, which also looked better than the previous year's selection, and repainted—two coats. Seven more samples were put up.

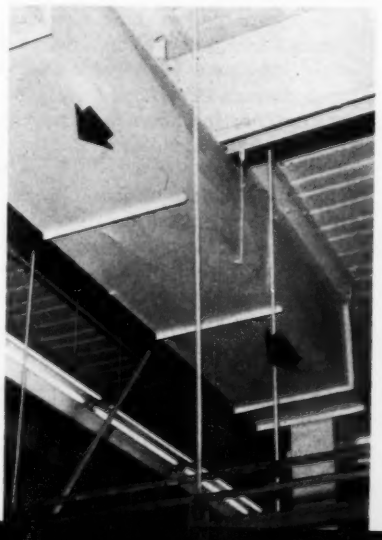
1950—Repeat performance—an-another paint job, more samples. However, there were two encouraging developments this year. Paint suppliers started bringing

AFTER TWO YEARS, 90 per cent of ductwork was mildewed about like this representative portion. Most of the manufacturing areas in the mill have refrigeration, so the mildew problem is present both summer and winter; ducts offer ideal conditions for mildew growth.



SEVERE ATTACK OF MILDEW, as shown here, required two coats of finish to check. Trisodium phosphate solution is used to remove mildew before repainting.

OLD FINISH (left arrow) is not allowed to deteriorate excessively before new coat (right arrow) is applied.



their factory representatives around; manufacturers' chemists began visiting the mill and evaluating the samples. And, at the end of the year, one sample stood out above the rest. It showed less mildew-growth than anything we had tried previously, and was the first real promise that our search would prove fruitful.

1951—We repainted again—two coats—using our "good" sample. More samples than ever were put up this year. (Incidentally, we were not buying samples. Manufacturers were delighted to furnish them.) This year we "discovered" a better sample. It was the same manufacturer's product, using the same basic inhibitor but with a different formulation from the 1950 find.

1952—It was still necessary to repaint, but this time—hallelujah!—we only had to use one coat. Of course we used the 1951 "discovery." And also as a matter of course we put up more samples. At the end of one year the paint job was still clean.

1953—For the first year since the installation of the air conditioning system, it was not necessary to paint the duct work. But, by mid-winter, the inhibitor began losing its effectiveness, and at the end of two years it was necessary to paint again. However, none of the samples had stood up as well as the paint job.

1954—This time, about 10% of the duct had to be painted two coats. One coat was sufficient on the other 90%. We used the same paint as in 1952. By this time, the number of samples had grown until they now covered quite an extensive area. Because of this, slight differences in "local" conditions were apparent, such as some samples being in closer proximity to atomizers than others. To even these out, we decided to put up two samples of each product in different locations in the room.

The samples on test now number 19, and represent the products of seven manufacturers. Some of the manufacturers have as many as six samples in the test. Each manufacturer is allowed to have his sales representatives and chemists visit the mill and evaluate his product against the others.

The only records we need to keep are the code numbers assigned to the various samples. We do not ask for any formulations, so we are not in position to divulge any secrets. We are not even interested in prices until after we evaluate performance. We no longer listen to sales talk—we invite the salesman to submit his sample to our test where he as well as we can see how his product stacks-up against his competitors'.

Planning to Spin Mohair? Here Are Some Pointers for You

Running mohair is like running carefully selected better wool grades, but the length of the stock and the nature of its impurities dictate some special care.

BY CHARLES F. MILLWARD
EXCLUSIVE

IF YOU plan to spin only a few thousand pounds of mohair* a year, don't do it! Buy your yarn from a spinner who has made a good name in the manufacture of this type of yarn.

If you are going into the manufacture of mohair to any great extent, then by all means see that you are properly equipped to do so and follow some basic rules. If this stock is not properly processed, you will have to answer for a mighty lot of unforeseen losses.

In running mohair, several points in preparation demand close attention: stock selection to spin down to required yarn size, cutting, dusting, scouring, and the nature of the blending stock.

Raw Materials. Mohair is, and must be recognized as, a specialty hair fiber. Most mohair will carry a load of foreign matter such as sand, dust, leaves, twigs, and grass totaling up to 25 or 30 per cent of the weight of the fleece.

In addition, there is about a 4 per cent natural grease content, plus a kemp content as high as 16 to 20 per cent. Adding 10 per cent for average moisture content, shrinkage can amount to 55 to 60 per cent.

This fact is of significant importance in selecting preparatory processes. Another point to bear in mind is staple length: average for mohair is 7 to 9 inches, with a range of from 4 to 12 inches; it is sometimes as long as 14 inches.

Cutting. Mohair is more often than not blended with other stocks. To do this properly the staple length must be reduced to three to four inches.

Such stocks as tanner's wool, short waste, rag stocks or clips, and knits will blend much better with cut mohair, and will remain better blended as the material proceeds through the mixing pickers, blower systems, and the card feed box, where the stock is subjected to a continuous beating from the combs.

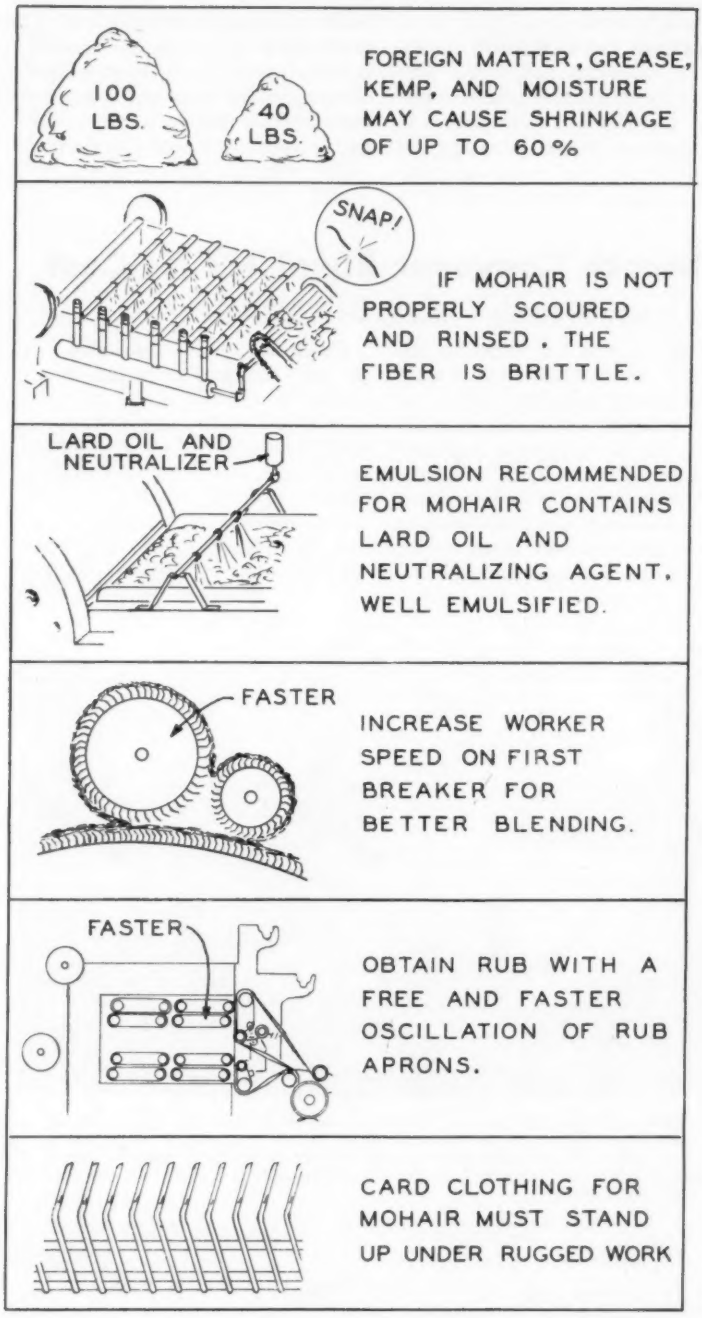
Lapping should precede the cutting of mohair from the pelt. Since the fiber is circular, curly, and tangled, one cutting is not desirable.

If cutting is not practiced, waste costs generally rise. This results from the necessity for increasing card fancy speeds in direct proportion to staple length, to raise the stock from the cylinder for proper transfer of the web to the doffer. The higher the fancy speed, the greater the blow, with a resultant dropping of short filler stock in the blend.

Scouring. A large percentage of

*Mohair is a specialty hair fiber obtained from the Angora goat, which is raised commercially in the United States, principally in Texas, and in Turkey and the Union of South Africa.

MOHAIR PROCESSING TIPS


100 LBS.
40 LBS.
FOREIGN MATTER, GREASE, KEMP, AND MOISTURE MAY CAUSE SHRINKAGE OF UP TO 60%
SNAP!
IF MOHAIR IS NOT PROPERLY SCOURED AND RINSED, THE FIBER IS BRITTLE.
LARD OIL AND NEUTRALIZER
EMULSION RECOMMENDED FOR MOHAIR CONTAINS LARD OIL AND NEUTRALIZING AGENT, WELL EMULSIFIED.
FASTER
INCREASE WORKER SPEED ON FIRST BREAKER FOR BETTER BLENDING.
FASTER
OBTAIN RUB WITH A FREE AND FASTER OSCILLATION OF RUB APRONS.
CARD CLOTHING FOR MOHAIR MUST STAND UP UNDER RUGGED WORK

mohair is stock dyed. If not properly scoured and rinsed and if acid burned in dyeing, these mohair fibers become brittle, with a loss in condensing and spinning qualities.

In making the decision whether or not to scour, cost savings realized by eliminating this step must be counterbalanced by knowledge of possible production losses suffered by the same token.

Specifically, when a combination of dust, dirt, natural grease, and added emulsion get to the card, the wire will accumulate a sticky mass of paste. This substantially reduces carding energy, and stripping and cleaning requirements are high.

Oiling The Stock. Many manufacturers favor mineral oils as emulsifiers. However, for mohair, a recommended emulsion consists of lard oil and neutralizing agent heated and well emulsified. While more expensive than mineral oils, this formulation helps to make a good yarn.

After oiling, it is suggested the batch be permitted to "season" for 24 hours.

Carding. In carding, it is well to speed up workers on the first breaker so as not to carry too heavy a worker load for good blending throughout the card train.

Spike aprons and carrier aprons in the feed box, and middle alley carrier table aprons should be checked against slippage. Cause of this slippage is the presence of the long mohair fibers and their tendency to wind into apron bearings, causing slowdown or slippage. This makes for uneven delivery.

Since mohair is not curly and crimped like wool, it does not require as much carding energy. Reduced cylinder speeds are therefore in order. Production flow can be maintained by speeding up doffers. This step also reduces fly waste and droppings.

In condensing, rub should not be achieved by closing up apron banks. It is much better to obtain rub with a free and faster oscillating movement and with the aid of the compressor roll. Apron stroke should be shortened as much as possible so as not to produce double ends.

Considering the impurities present and the length characteristics of mohair, card clothing must be right for the more rugged work required. To put staple mohair into a woolen card that has been clothed for a medium to fine wool is a mistake that will prove costly.

These hair fibers are from medium to heavy in grade, and will pull back card wire. When this happens, back pitch and forward pitch or wire knee action is lost. Once this knee action or

back pitch is destroyed, there is no way of restoring it.

While it is possible to grind and sharpen wire after running mohair, if the wrong clothing is used the permanent damage which results is a high price to pay for running an occasional lot of a few thousand pounds of this fiber. Reclothing is necessary when switching back to wool.

Spinning. Good mohair roving is free of lumps and twits, and must remain so throughout spinning.

In mule or frame spinning, operators must be cautioned against tight drafting and winding. In mule spinning, a common failing, practiced to get better production, is carrying too much back weight on tension wires to get a harder bobbin. This places undue strain on the yarns and produces twits.

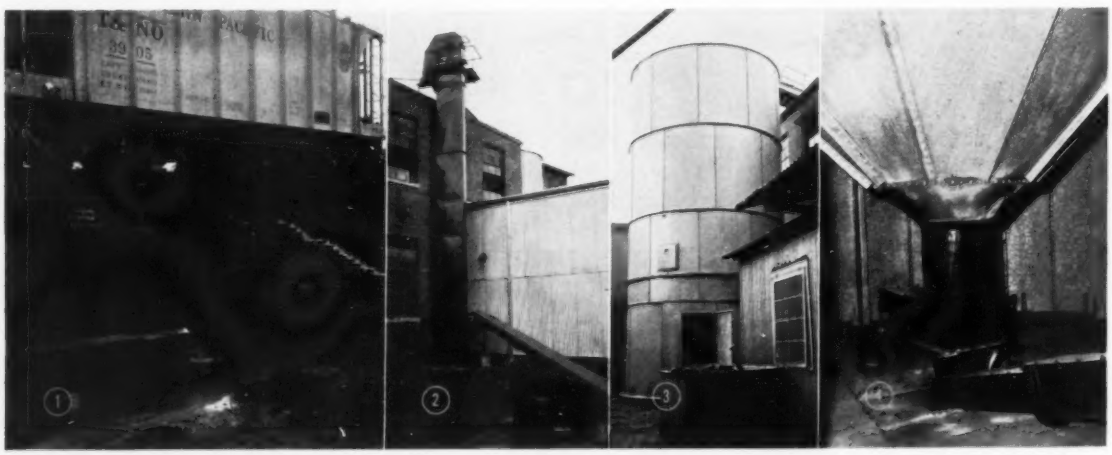
Annual Savings From Starch Conveyor Equal 1/3 Its Cost

STAFF PREPARED
EXCLUSIVE

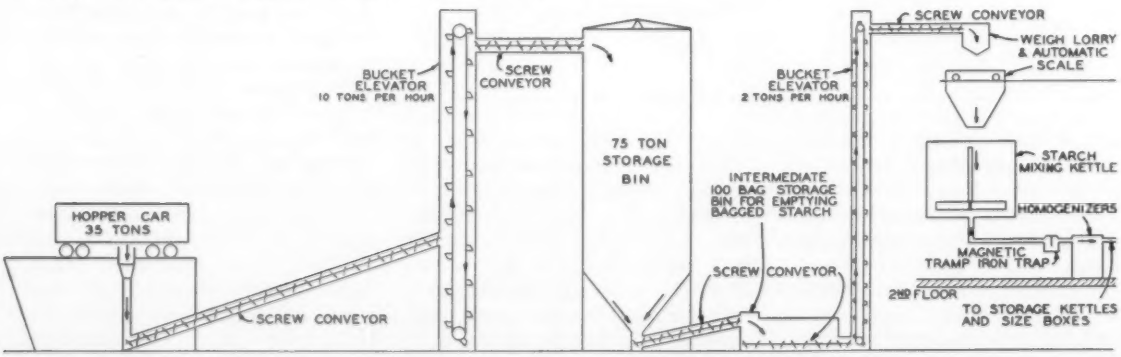
THE JOHN P. KING Manufacturing Co., Augusta, Ga., uses a pellet form of starch that weighs approximately 43 pounds per cubic foot. This mill installed a completely mechanical starch handling system which was finished in October, 1954. A mechanical design was used throughout for handling the starch in the most economical way.

The savings afforded by buying large quantities of starch in bulk form, plus labor savings and conservation of warehouse facilities, permit amortizing the investment in this mechanical starch handling equipment in about three years, based on present consumption.

Equipment and Operation. A flexible canvas connection is attached to the bottom of the railroad hopper car, and the starch drops by gravity to a standard screw conveyor. The material is then carried to a bucket elevator which delivers the starch to a second horizontal screw conveyor, which carries the starch into the



1. Starch drops by gravity from railroad hopper cars through canvas connection into conveyors. **2.** Conventional type conveyors and elevators deliver starch to storage bin at rate of approximately 10 tons per hour. **3.** Economical hot dipped galvanized storage bin requires a minimum of maintenance and was comparatively easy to erect. **4.** Starch flows from cone in bottom of bin to feeders and standard conveyors which deliver starch to automatic scales in the plant at approximately two tons per hour.



top of a storage bin at the rate of approximately 10 tons per hour.

The storage bin is assembled with bolts and is a standard metal-type receptacle having a capacity of approximately 75 tons. The bin is made of hot-dipped galvanized metal which requires a minimum of maintenance. The bin has a cone shaped bottom, and conveyors deliver the starch from this point to a daily supply bin.

The daily supply bin is connected to the slasher room by horizontal and vertical screws which deliver starch to automatic scales in the slasher room at two tons per hour while the weigh lorry is being filled. The slasher room uses approximately 300 pounds of starch per hour.

This installation was designed by engineers at the mill who were assisted by technicians from the Corn Products Sales Co. Components of the system were purchased and installed by the mill. Bucket elevators and screw conveyors were furnished by Link-Belt Co.; galvanized tanks were supplied by Black, Sivalls, and Bryson, Inc.

Spinning Coarse Yarns from Drawing Sliver

BY RICHARD C. MOYER
The Linen Thread Co., Inc.
Blue Mountain, Alabama

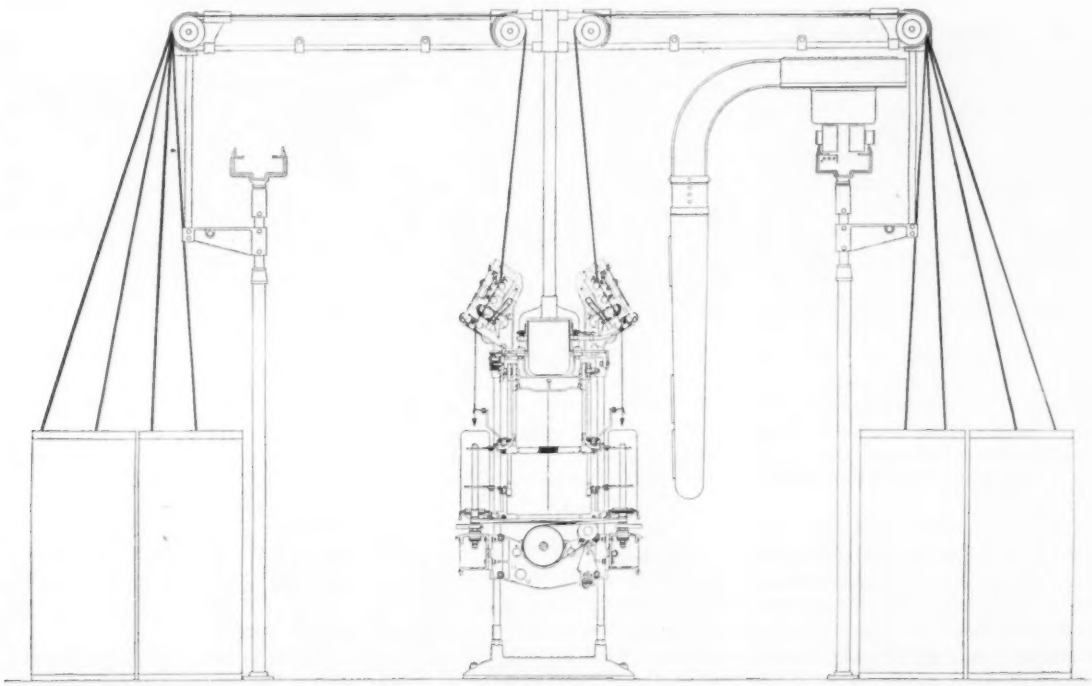
ABSTRACT*

MOST OF the study and developments of spinning direct from drawing sliver have been confined to the spinning of fine yarns in counts finer than 12s, with very little thought given to a practical arrangement for spinning yarns in counts of 10s and coarser. To spin coarse yarns economically requires the supply cans to be as large as possible to give maximum runs between creelings. The use of cans in a size 14″ x 36″ or larger as a supply does create a problem of developing the most practical arrangement of the creel for best operation of the frame. There is also the problem of properly placing cans at the frame from the standpoint of floor space requirements.

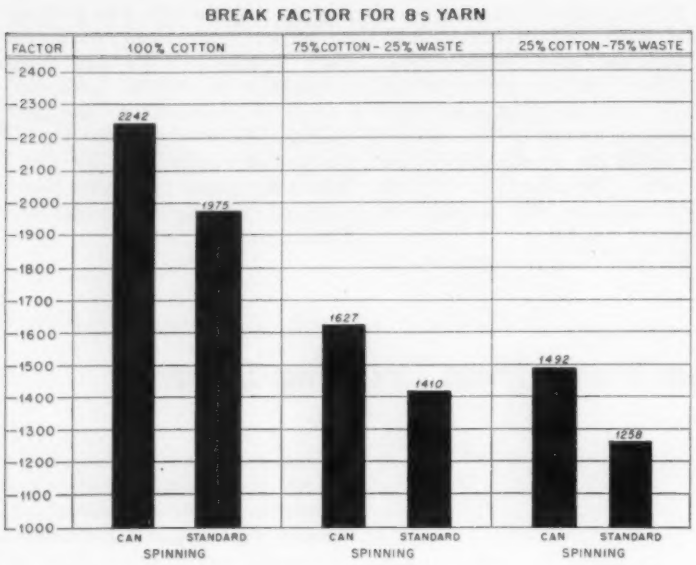
The Linen Thread Co., being a spinner of coarse yarns for processing into threads and twines, is constantly in search of practical, efficient, and economical processes for producing its coarse yarn requirements. This led us to the study of a frame developed by Saco-Lowell.

After research and extensive experimenting, we purchased one unit consisting of a full-length, 200-spindle Gwaltney frame equipped to produce a range of yarns up to 10s direct from drawing sliver. We

*From a paper presented by Mr. Moyer at the 1956 Cotton Research Clinic, sponsored by the National Cotton Council.



SLIVER-TO-YARN SPINNING FRAME. showing the drafting elements, the method of feeding the sliver, and the arrangement of the supply cans. The frame is 4½″ gauge, with 3½″ rings and 12¼″ traverse. The supply cans are placed on the floor, as shown, on both sides of the frame, with a sufficient working alley between cans and frame.



have been experimenting with this frame for the past few months with satisfactory results in quality of yarns produced. The creel arrangement and placing of supply cans, however, call for further study to effect an ideal and practical set-up for full-scale operation.

The Problem of Floor Space. Floor space is a definite problem, and one that calls for careful study when planning an installation. With all cans placed directly on the floor, the over-all width per frame including the cans is 135½", allowing 27½" working alleys. With cans placed one above the other, the over-all width is reduced to 110½".

This set-up is the latest change made in an effort to arrive at a practical arrangement for the creel, the traveling cleaner, and the supply cans. The installation of the traveling cleaner has presented a problem and one we continue to work on along with the Parks-Cramer Co.

Originally the track for the cleaner was about five feet from the floor. It was necessary to raise the track to a position of six feet from the floor to allow proper clearance for a person of average height to walk under. This made it necessary to raise the sliver-lifting rolls to a position about eight feet from the floor.

You may question whether this creel arrangement, with the lifting rolls eight feet from the floor, is practical from an operating standpoint. It does call for further study. However, we have found from experience that it will run with practically no trouble due to sliver breaking back in the creel. To creel the frame from scratch is somewhat of a problem, and is costly. In creeling, the same method is followed as that used on a slubber.

Draft. The drafting element is a three-zone type, with Duo-Roth in the front zone where the major portion of the draft occurs. The draft will run approximately 1½ in the back zone and 2½ in the intermediate or middle zone.

Total drafts are generally in the range of 30 to 60, although I understand a draft of better than 100 has been processed satisfactorily. In our experiment, sliver weights of 50 to 55 grains per yard were used in spinning yarns ranging from 4s to 10s.

Creeling. Two slivers are individually coiled in each can. The cans presently being used are 14" x 36", and when processing 100% cotton, a full can will contain approximately 20 pounds; it holds slightly less when processing 100% waste, or waste and cotton blends.

When spinning 8s warp yarn, a full can will last approximately 80 hours, as compared to only approximately 25 hours when using a 12" x 6½" roving package in the creel. With the supply can running 80 hours or 10 shifts in the creel when spinning 8s yarn, the creel can be staggered on a 200-spindle frame with 100 cans in the creel so that it is necessary to creel only 10 cans per shift.

Draw Frame. A twin-strand draw frame was developed for use in spinning from sliver.

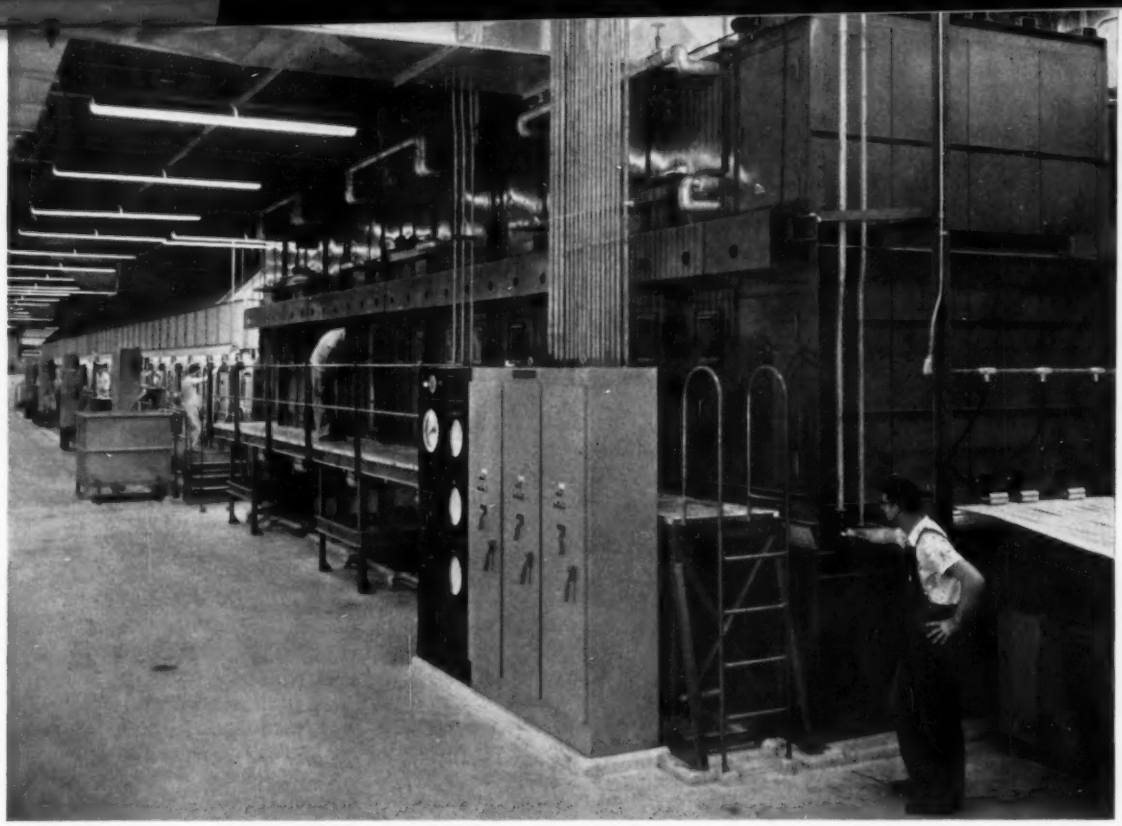
To prevent overlapping of the coils and subsequent tangling as sliver is removed from the can, the cans rotate ½ revolution clockwise and then ½ revolution counter clock-wise, alternately, throughout the filling of the can.

Quality of Yarn Produced. In all cases, yarns spun from sliver show an improvement in break as compared to yarn spun from identical stock on three-roll conventional spinning. An accompanying chart shows test results on yarns from three different stocks. The yarn spun from sliver we refer to as "Can" and the yarn from three-roll conventional spinning as "Standard."

Operating Details. We have been operating the frame at spindle speeds of 4000 to 6600 rpm on a range of yarn sizes from 4s to 10s in various qualities and twists. We have run the frame equipped with 3½" rings at speeds comparable with those considered standard for the yarns processed. With the elimination of the roving operation (one of the major sources of yarn defects), the use of modern drawing, and good performance on the spinning, the yarn imperfections are held to a minimum.

The improvement in quality of yarn, plus the larger package, will show substantial reduction in winding cost. There is also a possibility of using this larger package directly on a twister creel, thereby eliminating the winding entirely.

A full bobbin of yarn will average a net weight of 19½ ounces, which means each doff on a 200-spindle frame is equal to one-half bale of cotton.



WARP MERCERIZING RANGE at Coats & Clark's new Toccoa, Ga., plant.

Practical Warp Mercerizing

BY SIDNEY M. EDELSTEIN
Technical Director
Dexter Chemical Corporation

EXCLUSIVE

Warp mercerizing accounts for the bulk of the mercerized yarn being produced for the American market. The process poses many practical problems and the author discusses some of the most important. His twenty-five years of experience in both the practical and theoretical aspects of mercerizing have lead to many answers to these problems.

A companion article, "Practical Piece Goods Mercerizing," appeared in the March, 1955, issue of TEXTILE INDUSTRIES.

Why Mercerize in the Warp?

The advantages of warp mercerizing are obvious from its name—"The American Process." Throughout the world American methods of manufacturing are supposed to depend on a continuous flow of material, usually in great volume and often at high speeds. Warp mercerizing fulfills these conditions by allowing yarn to be mercerized in a continuous manner with high production output.

The question arises, however, if maximum efficiency is the criterion, why mercerize yarn in the first place instead of mercerizing in the piece? There are many answers to this, most of which are obvious.

First, there are yarns to be used for knitting. Obviously, it would be impossible to properly mercerize knitted fabric except under special cases. Also cotton yarn is often knitted with silk, wool, rayon, and other fibers. Mercerizing in the yarn is the only reasonable method for obtaining all the important advantages of mercerized cotton in the final fabric. The answer in the case of thread is also obvious.

In the case of yarns for weaving, however, the answer is not always so obvious. At first view it would appear most reasonable to obtain the desired effects by mercerizing the final woven goods since, generally, woven goods can be mercerized at a faster rate, and more economically, than is the case with yarns. It must be noted that mercerizing in the yarn allows a certain flexibility in the control of the yarn. Also, mercerizing in the form of yarn generally allows maximum development of strength characteristics within the yarn as distinct from mercerizing the same yarn after it has been woven into the piece. Furthermore, by mercerizing certain yarns which are weak, the extra strength will give more efficiency during weaving.

Mercerizing yarns which are to be made into woven goods allows many special effects in the final goods. For example, warp yarns may be mercerized and woven into a fabric which may have filling

yarns made of other fibers.

Finally, for maximum strength and maximum luster requirements, best results can be obtained generally by mercerizing in the form of yarn rather than the final fabric.

The warp process has many advantages over mercerizing yarn in skeins. First, the warp process allows the continuous mercerizing of an end of yarn which may be 6,000 yards or longer and many thousand ends of yarn may be processed continuously and economically at the same time. This method of mercerizing requires the least amount of handling since the yarns may be put automatically into ball warps directly from creels, mercerized continuously, dried continuously, and then quilled onto bobbins or spools.

Finally, the warp process has certain inherent advantages in the conservation of the chemical used in the process as against the batch or skein process. Since the warp process allows counter-current washing, efficient means for recovering the caustic can be used. Warp mercerizing is the American method par excellence. As long as we have large volumes of yarn to be mercerized as efficiently as possible, the warp process will be preferred.

Are There Disadvantages in Warp Mercerizing?

Warp mercerizing is not perfect in every respect. That is to say that there are certain disadvantages in the process. First, the efficiency of the warp process is based on the idea of handling large volumes of yarn. Obviously, then, short lengths of yarn or small quantities of yarn or a variety of yarns in different constructions pose a problem which is best solved by mercerizing in the skein.

In the manufacture of ball warps there must be slight differences in tension in one end of yarn as against another. This means that all yarns within a warp cannot be under the same tension as they move through the mercerizing machine.

Secondly, if the warp mercerizing machine is to be used to its full capacity, it is inherent in the process that one end of yarn will sometimes be above and then below or adjacent to its neighbor yarn. Therefore, there must be some portions of a yarn as it travels along which will get different pressures, different squeezes, and perhaps slightly different chemical treatments from other portions of the same yarn. Therefore, using the warp mercerizing machine to the maximum capacity inevitably presents the danger of some uneven treatment.

Thirdly, maximum tension is not always possible when mercerizing warp yarns. Since some ends are in the warp under slightly less tension than other ends, increasing the tension to the maximum for the looser yarns may mean too much tension for the tighter yarns. Hence, in warp mercerizing maximum luster cannot always be obtained.

Finally, the warp mercerizing process is not at its best unless it is handling yarn of the same kind, or closely of the same kind, in any individual run. This means that large quantities of yarn of a particular count and twist must be on hand in order to make the process economical.

For best results a run on a warp mercerizing machine should not contain yarns of varying twists. Even more important, we should not have yarns of different twists or sizes within the same warp. Yarns of different twists or counts tend to twist around each other during treatment or are subject to different tensions, and this results in uneven mercerizing, and difficulty in separating the yarns in the quilling process.

The warp mercerizing process may be used to handle some single yarns, but in general many types of single yarns cannot be mercerized in warp form because of their weakness. Furthermore, maximum tension for luster development cannot be used on the warp mercerizing machine for single yarns because of the danger of yarn breakage.

In summary, it may be stated that where mixed lots of yarn are to be mercerized, where the yarns are single yarns of low strength, or where extreme conditions of tension are needed for luster, then the warp mercerizing process is disadvantageous.

Strands or Free Warps?

Since the early days of warp mercerizing, most mercerizers have put their warps together into strands. These strands are formed by binding loosely together several warps with a cord or heavy yarn called "water ribbon." More recently, some mercerizers have abandoned the strand system and are mercerizing their warp yarn in free warps, thus obtaining what almost amounts to a continuous sheet of warp yarns.

The formation of warps into strands offers two important advantages, however. First, the fact that the warps are loosely bound with a spiral wrapping insures that if an end of yarn is broken during the mercerizing process, it will not come loose from the warp for too great a length, since the spiral wrapping will catch it after a short distance. In other words, mercerizing in the strand tends to reduce individual thread damage and loss. The second advantage is that by forming several warps into strands, the number of individual units which must be threaded up and looked after on the warp mercerizing machine and in the dryer is thus reduced. This makes for efficiency in handling and manipulation.

The obvious disadvantage in forming warps into strands is the fact that the yarns must overlay each other in such a strand. Therefore, squeezes, tensions, and the action of solutions in the warp mercerizing machine must vary from one yarn to another at any particular point. This tends to promote unevenness in every respect. Also, by having the yarn in strands there are generally alternate spaces in the mercerizing machine between strands where squeezing, washing, and other actions do not take place.

Finally, if spray washing or spray treatments are used in any of the compartments of the warp mercerizing machine, they must of necessity be only partially efficient because of the thickness of the strands. As the strands move through the machine, the yarns in

the warps tend to come together rather than to spread out. Also, sprays hitting the portions where there are no yarns in between the strands are wasted.

Warp mercerizing with the warps free, that is unbound and not in the form of strands, theoretically offers the best method for obtaining even results throughout the length of an end of yarn in warp mercerizing. First, by running the warps unbound into the warp mercerizing machine, the yarns tend to spread out evenly across the rolls so that in effect we have a continuous sheet of yarn. The absence of the binding water ribbon also allows the tension along each end of yarn to even up.

Secondly, the fact that there are no thick and thin places tends to give more even results. The mercerizing of the yarns in the form of free warps allows the efficient use of spray washing methods. These latter methods offer special advantages in terms of evenness of dyeing and softness of final yarn. With these advantages in running unbound warps there is still the attendant disadvantage of many more units to handle on entering the machine, when there is a breakdown, in threading up, and in the dryer. Also, broken ends tend to come away from the warps, and the loss on a break is usually much larger for a particular end of yarn than if it were bound into a strand.

Finally, mercerizing in free warps does not allow as much tension to be applied to certain weak yarns as is possible with the yarns bound into strands.

The choice of which method to use is still a moot point. Each mercerizer must weigh the advantages of evenness versus the disadvantages of efficiency in terms of breakage and yarn handling. Also, the decision will depend on the particular equipment available and the type of yarns being mercerized. In general, most warp mercerizers still prefer to use the strand method.

Wet or Dry Mercerizing?

In the case of yarn mercerization, there is no question as to whether the yarn should be bleached before mercerizing or afterwards, as is the case with piece goods. All yarns are mercerized in the grey state, and if the yarns are first kiered or boiled out, or wet out, then this is done for the sole purpose of putting the yarn in condition for satisfactory mercerizing and not for any specific routing conditions or for special processing prior to mercerizing.

The question of wet versus dry mercerizing therefore revolves around a few simple points.

First, we must remember that the oldest technique in a process tends to have supporters simply because the process is the oldest or the original one. When Mercer first discovered the mercerization process, he found that in order to have the caustic react with the cotton, the cotton had to be thoroughly wet out first. Mercer knew of no way of making the caustic penetrate of itself, and the early mercerizers first boiled out their yarn thoroughly, extracted the excess water, and then mercerized. Many modern-day warp mercerizers still cling to the old process, although in modified form.

The bad experience which some mercerizers have had with foaming in their caustic evaporators due to some of the older unsatisfactory mercerizing penetrants, as well as the other inefficiencies of these early penetrants, have caused many of the long established warp mercerizers to resist "dry" mercerizing. For the most part this wet process has many disadvantages when compared against the dry process, which depends on wetting out the yarn directly in the caustic.

The few advantages of the wet process are so slight as to be in fact negligible. One small advantage in giving the yarn a preliminary wetting out before the caustic treatment lies in the fact that this preliminary wetting out allows a certain amount of the extraneous material to be removed from the yarn, thus preventing this material from contaminating the caustic. This extraneous material can be considerable in the case of yarn which has been gassed.

Kiering of warps before mercerizing is certainly an outmoded and expensive process. While this may have been the original method for wetting out, it has been given up by practically all warp mercerizers. Today the question of wet versus dry mercerizing is a question of a preliminary wetting out bath on the mercerizing machine before caustic treatment versus running the dry yarn directly into the caustic containing a special penetrant. If a wetting out process is used which depends on simply boiling in hot water without the addition of other chemicals, the only cost is the cost of steam; but complete, even wetting is almost an impossibility without an extremely long series of boiling out boxes which are not present on most mercerizing machines.

In this method the cost of steam is considerable. Generally, however, most people using the wet method carry on the wetting out process in one or two compartments on the mercerizing machine preceding the caustic impregnation, and employ wetting agents to insure thorough wetting of the yarn. In this method the cost of chemicals is considerable; and, in addition, the wetting bath has to be carefully controlled for even and constant wetting power.

A disadvantage of this wetting out process lies in the fact that a considerable amount of insoluble waxes from the cotton tends to accumulate and float on top of the bath. These waxes are often picked up by portions of the yarn and occasionally leave resist spots or cause some uneven dyeing.

The greatest disadvantage of the wet process, however, is the fact that the yarn enters the caustic bath with a considerable quantity of water which will range from 70 to 140% of the weight of the yarn. This means that if mercerizing is to be carried out at a particular strength, say 50°Tw, a much higher concentration of caustic must be constantly added to the bath to make up for this dilution. Also, the fact that yarn enters the caustic wet means that a portion of the time when the yarn is in contact with the caustic is taken up not by the mercerizing action but by the caustic replacing the water. This means that longer boxes or slower speeds must be used when the yarn is wet out previously to merceriz-

ing, as compared with the dry process.

With the modern mercerizing penetrants and assistants which have been developed in the last few years, the dry method of mercerizing warp yarns offers so many advantages that the wet process is completely overshadowed. First, penetrants are available today which not only cause the caustic to wet the grey yarn immediately, but at the same time actually have a catalytic effect which tends to speed up the mercerizing action. Penetrants are also available which will not cause foaming when carried over into wash waters which go to recovery systems.

By running the goods dry into a caustic bath containing a proper mercerizing penetrant, the mercerizing action begins immediately. This action can take place evenly over the whole length of yarn, since there is no chance of uneven wetting out in the caustic as is possible with the wet method.

Thirdly, the fact that the goods do not carry any water into the caustic bath means that the strength of the caustic bath is more easily controlled. Also, in recovering caustic from wash waters with the dry process, a lower caustic strength is needed to keep the Twaddell up in the caustic bath, and therefore the recovery process is simplified by the fact that the caustic does not have to be evaporated to as high a concentration as is necessary with the wet process.

In the "dry" process, the small amount of extra dirt that is taken into the caustic by the unwashed yarn can easily be taken care of with some of the modern circulating filters which are often installed even in plants doing wet mercerizing. As far as cost is concerned, it is generally found that the cost of a good mercerizing assistant is no more than the cost of the wetting agents, extra steam, and extra evaporating costs which are required in the wet process.

Finally, there is the question of quality in the final mercerized yarn. The process of mercerizing the yarn dry permits the application of more even tensions and the caustic reaction is inherently more even because of the fact that there are no varying amounts of water present along the length of a particular end of yarn. Therefore, the dry process tends to produce more level dyeing yarns than the wet process, provided other factors are kept constant.

Impregnation? Which Unit for Caustic

Mercerizing is essentially a time reaction. Thorough impregnation of the cotton with the caustic does not necessarily mean the mercerizing action will be complete. In mercerizing there must be time for the caustic to replace any water held within the fibers, if the cotton is being mercerized in a wet form.

There must be time for the caustic soda to penetrate thoroughly into the cellulose of the cotton fiber, and time for the swelling or true mercerization reaction to take place. While, for the most part, these reactions take place in the first 30 seconds, several minutes are required for complete reaction. Therefore, the size and nature of the caustic impregnating unit must be related to the results that are to be accomplished and the speed of operation.

Since, in mercerizing yarn, a high degree of mercerizing action is desired, then the box must be arranged so that the cotton yarn is in contact with the caustic for a matter of minutes, and not a matter of seconds, as is true with piece goods. For most work it is considered that two minutes contact between the cotton and the caustic is the minimum, and many tests have indicated that at least three minutes is necessary for complete mercerizing action.

Bearing in mind the importance of time of contact, there is a lot of leeway as to the construction and setup of the caustic impregnating unit. The first principle to consider is that cotton need not be immersed in a large volume of caustic soda in order for the mercerizing reaction to take place. The reaction will continue as long as the cotton is thoroughly saturated with the caustic. This means that the mercerizing will carry on just as well whether the bath is a very long bath with dip rolls, or whether the mercerizing impregnating unit is a series of padding or single dip operations with large time factors for skying or free action in between.

An important factor to remember, however, if the padding and skying type of operation is used is that there must be some excess caustic surrounding each cotton fiber. An impregnating unit which squeezes out the caustic to below 100% will not give maximum mercerization regardless of the time of skying. Also, since tension is kept on the yarn during the caustic impregnation and treatment, it will be found that maximum tension cannot be applied unless the yarn is kept thoroughly wet with the caustic at all times. The excess caustic acts as a lubricant and prevents rupture of the yarn.

Another factor which governs the nature of the impregnating unit is the control of caustic strength, and this is related to whether the yarn is mercerized in the wet state or in the dry state. If the yarn is mercerized wet, then longer or deeper baths are more necessary than would be the case if the yarn were mercerized dry. The longer baths allow a chance for the water from the yarn to be removed into the caustic and replaced with caustic of mercerizing strength.

In the case of dry mercerizing, a long bath does ease the control of the caustic strength. During the mercerizing action, caustic is actually absorbed from the caustic solution and continuous running of yarn through a caustic bath will gradually cause a dilution of the strength of the bath because of the absorption of this caustic. A long bath therefore will change more slowly during running.

In general, it may be stated that there is no disadvantage in having a long impregnating unit with the yarn in contact with large volumes of liquor. The point is that this is not necessary, and satisfactory results can be obtained with short contacts of the cotton and the caustic bath provided that there is enough caustic in the yarn and enough time for the caustic to react with the yarn while it is out of the caustic bath.

As far as heavy squeeze rolls are

concerned, these for the most part are unnecessary. If the yarn has been thoroughly wet, then the caustic will impregnate the goods without heavy squeeze. If dry mercerizing is used, then the heavy squeezes will not improve the mercerizing reaction, because a caustic bath with a proper mercerizing penetrant will wet the cotton thoroughly without any squeeze at all. Heavy squeezes are a disadvantage because they tend to crush the yarn, and particularly if the yarn is squeezed too thoroughly between skying operations, the mercerizing action will not take place to the fullest.

The Caustic Bath and Its Control

Warp mercerizing is carried out in a caustic range of 48° to 60° Tw. Most mercerizers use a caustic of 50° to 52° Tw. While in the case of piece goods there is occasion to mercerize goods in lower Twaddells for dye affinity alone, this is never done in the case of yarn.

Unquestionably, a range of 48° to 52° Tw is the most satisfactory for warp mercerizing. While some mercerizers are using caustics slightly stronger than this, this writer has not been able to find any advantage in doing so.

There are certain disadvantages in these higher caustics. First, using a higher caustic Twaddell than is necessary simply adds an extra cost for caustic if no recovery is used, and somewhat higher steam costs if a recovery system is used. Also, the higher caustics mean a more difficult washing problem, with subsequent increase in costs for steam, water, and acid.

Finally, most mercerizing penetrants are made to do their best work in the range of 48° to 52° Tw, and using higher caustics requires special mercerizing penetrants which are soluble in these higher caustics.

The range of 48° to 52° Tw caustic has been found, by controlled mercerizing tests under laboratory conditions, as well as by plant production, to give satisfactory results as far as luster, dye affinity, and strength are concerned. Using a caustic in this range will allow some variation in temperature or slight variation in Twaddell without affecting the final results from the practical standpoint.

Caustic baths used in warp mercerizing will dissolve a certain amount of the pectins and loose fibers from the yarn. These baths, however, do not accumulate as many impurities as would be found in mercerizing grey piece goods, since the cotton yarns do not contain any sizing and only natural impurities in the cotton are removed by the bath. Ordinarily, the dissolved cotton pectins in the caustic do not seem to affect the mercerizing powers of the caustic in warp mercerizing. Commercial runs made using clean new caustic, as compared with the same commercial runs made with older caustic containing impurities from the cotton, do not show any noticeable commercial differences.

In caustic recovery, a certain amount of the pectins and impurities is removed, and this is desirable from the viewpoint of not accumulating so much pectin in the caustic to the point where these pectins would separate out into curds or lumps. A mercerizing caustic bath over-saturated with pectins and dirt will give false readings of the hydrometer, and occasionally the yarn will carry some of this precipitated pectin along and cause resist spots.

Summing up, we may say that satisfactory commercial results are best obtained in a caustic range of 48° to 52° Tw. The temperature of the caustic may rise as high as 100 F without showing any deleterious effects on the resultant properties of the mercerized yarn. Low temperatures or special cooling effects are unnecessary in the recommended caustic range and are simply a waste of money.

Impurities in limited amounts will not cause any trouble. An accumulation of high quantities of pectic materials or high quantities of soda ash, however, will give false Twaddell readings and may have some effects on the final yarn.

Tension Control Versus Luster, Strength, Elasticity, and Dye Affinity

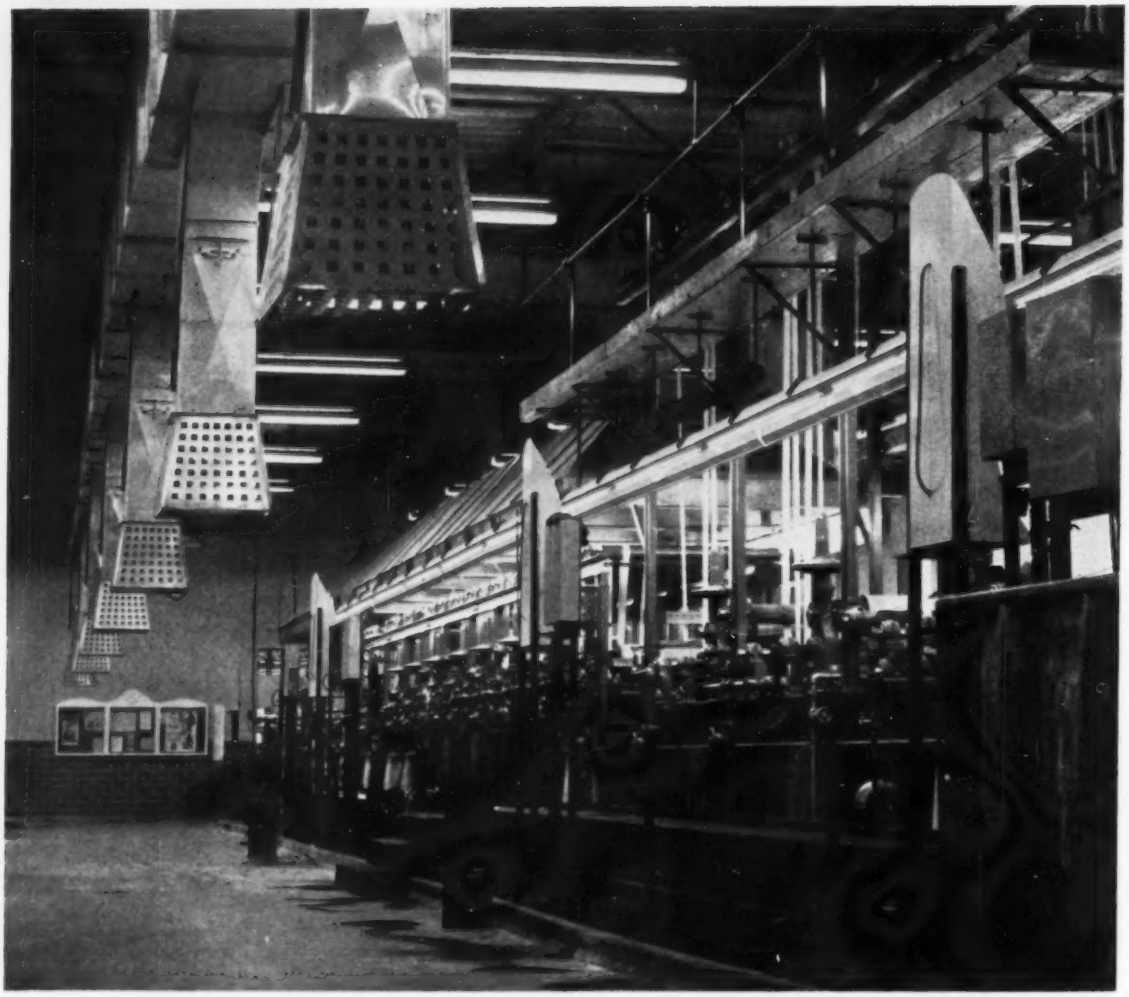
Tension is a fundamental factor in warp mercerizing. Therefore, its control is most important. In the strict sense, the word "tension" is misused in the trade. Tension relates to a force upon the yarn. In a warp mercerizing machine, we can control the tension only indirectly through stretch, shrinkage, or through the swelling power of the caustic. Assuming a caustic which is fairly constant, then the tension in the warp mercerizing machine will be controlled by the relative speeds of the squeeze rolls in the baths and also by yarn slippage in the squeeze rolls.

From the mercerizing standpoint, we are therefore concerned with the shrinkage or stretch which is put on the yarn from the time it enters the mercerizing caustic until a large portion of this caustic is washed out of the yarn. From the standpoint of general quality and efficiency we are also concerned with stretch or contraction in the boil-off, in the washing, in the souring, and even in the drying. Stretch and contraction in all of these places will affect the quality of the yarn in many ways.

First, however, let us discuss stretch or shrinkage in the caustic. For most yarns it is the common practice to simply hold the yarn so that it does not shrink during the caustic treatment and during the preliminary washing. Under these conditions satisfactory luster, elasticity, and dye affinity will develop. It is to be noted that some of the special properties of mercerized yarn will improve with increased stretch, and some of these will decrease with increased stretch.

Luster is directly connected with stretch during the caustic treatment. Stretching the yarn during caustic treatment will increase the luster provided the yarn is not allowed to shrink before it is washed. This is true even up to a stretch as high as 10%. At the same time, however, this increased stretch will definitely cause a decrease in the dye affinity of the yarn and a decrease in the elasticity.

Depending on the nature of the



WARP MERCERIZING RANGE at American Thread Company's new Sevier, N. C., plant.

yarn, increased stretch during the caustic treatment will increase the breaking strength of the final yarn up to a point and thereafter further stretch will decrease the strength. For yarns having a standard mercerizing twist and ranging from 20s/2 to 90s/2, as much as 4% stretch during the caustic treatment may be applied without enough decrease in the elasticity of the final yarn to cause any trouble. Also, the luster will be considerably increased and the tensile strength will be improved. For single yarns, however, any extra stretch is at best dangerous, and singles should at most be simply kept from shrinking.

For special dyeing effects, such as extra high dye affinity, the yarn may be allowed to shrink as much as 10% during the caustic treatment.

If yarn is stretched during the mercerizing process, or if it is allowed to shrink during the process, then cognizance must be taken of the fact that the final yarn will be a different count from the grey yarn which was normally used. Normally, yarns will gain one or two counts during the mercerizing process, because of the natural loss of several per cent of pectins and other impurities, but a large shrinkage or stretch will make a large change in the yarn count.

Control of the stretch or shrinkage during the mercerizing process must be positive. Any variations will result in yarns which will dye unevenly, although slight variations in shrinkage or stretch will not show up in the final luster or strength. In order to control these tensions during the mercerizing process, it is most important that there be positive means for controlling the speeds of the squeeze rolls entering the caustic bath, coming out of the caustic bath, and out of the first wash. It is also important that these squeeze rolls be kept true and of even density so that the same grip will be obtained on all of the single ends in the warps.

The control of tension, or in other words evenness of tension, within the warp during the make-up of the warp is also obviously important. While slight variations

in the makeup tension between one end of yarn and another in a warp will not show up as far as differences in luster or strength are concerned, they will cause slight differences in dye affinity between one end of yarn and the other. For maximum evenness of warp mercerizing, the tension or degree of stretch in each end of yarn must be very closely the same as in every other end.

If the boiling out or wetting out system is used before mercerizing, then generally two to four per cent of contraction would normally take place during the wetting out treatment if the yarn were not under tension. Where maximum luster is desired, it is better to allow the yarn to shrink somewhat during the wetting out process and then make up this loss in length by extra stretch during the caustic treatment.

If the yarn is slightly slack during the wetting out process, then a more thorough penetration and wetting of the yarn will also be assured. The choice however as to whether the yarn will be wet out under tension and held at the same degree of stretch in the mercerizing, or whether it will be allowed to contract slightly during wetting out and then stretched during the caustic treatment, will depend mainly on the equipment at hand.

Finally, in the washing process, after a certain amount of the mercerizing caustic has been removed, the yarn will tend to increase in length. At this point it is desirable to increase the speed of the rolls coming out of the washes so that a minimum amount of slack will be in the yarn. Too much slack will mean broken ends and difficulty in the final quilling process.

Caustic Washes

Just as in the case of piece goods mercerizing, the washing out of the caustic from the yarn in warp mercerizing is a critical point, but for completely different reasons. In piece goods, the critical factor is to wash the caustic out of the goods while the goods are still under tension on the tenter frame.

In warp mercerizing, however, there is no difficulty in washing out the caustic before tension in the yarn is released. The problem is to do this evenly and under the best possible conditions, for both evenness of dyeing and the softness of the yarn are involved.

There are two fundamental methods for washing the warp yarn after caustic impregnation. These are:

a. Washing by the counter current system.
b. Washing by a spray system.

Both methods have certain advantages and disadvantages.

Grey cotton yarn contains approximately one to two per cent of water-soluble pectic material. This material is easily removed by hot water, and to a certain extent even by cold water or cold caustic. The removal of this material does not materially change the dye affinity of the cotton.

In addition, however, there is two to three per cent of pectic material strongly bound to the cotton cellulose. This latter pectic material does not split off from the cotton except in hot dilute caustic solutions. The removal of these materials increases the dye affinity of the cotton, and in addition their removal tends to harshen the yarn. Finally, there are 0.4 to 0.7 per cent of a waxy material in grey cotton whose removal adds harshness to the yarn. This waxy material is not readily saponified by caustic but may be melted off in solutions having temperatures above 180 F.

In the counter-current system for washing out the caustic from the yarn in the warp mercerizing machine, the first wash box after caustic impregnation generally will have a caustic strength of 10° to 15° Tw; the second box will have a concentration of 3° to 8° Tw, and the following boxes will have correspondingly lower Twaddells.

The solutions in the first two boxes will be particularly right for removing the combined pectins from the cotton. Hence, conditions are especially opportune for causing uneven dyeing or harshness in these baths.

Theoretically, if a particular end of yarn is treated evenly from one end to the other during the caustic washes, it will not dye unevenly. Unfortunately, however, this is almost impossible with the normal handling of the yarn in the form of warps and strands. Pressure has an effect on the ease of removal of the combined pectins. The chance of obtaining a constant pressure at every section of an end of yarn while it is in these baths is remote.

Certain compromises can be made to minimize any uneven removal of combined pectins. First, since this removal takes place to the greatest extent at high temperatures, and since the waxes which contribute to softness also are removed at a high temperature, it would appear obvious to run these baths at as low a temperature as possible. There is another factor, however, working against this, for at low temperatures the caustic is not readily removed from the goods. Therefore, a compromise must be made.

In general, it has been found that these critical wash baths should be run at a temperature of 130 to 150 F when using the counter-current system. Temperatures much higher remove too much of the combined pectins, and temperatures lower than this do not do a thorough washing job. The other wash baths containing low amounts of caustic are less critical and may be run at slightly higher temperatures.

From the quality standpoint, best results in terms of evenness of dyeing and maximum softness of the mercerized yarn can be obtained by using the system of washing the yarn with fresh hot water sprays and without allowing the yarn to come in contact with actual caustic baths during the washing procedure. This method will give extremely uniform results, provided that there are enough sprays and a large enough flow of water to give an adequate and even washing of the yarn.

The disadvantage, of course, lies in the fact that caustic recovery is not satisfactory under these conditions. Also, best results are obtained if the yarns are handled in the form of a sheet rather than in the form of warps bound into strands.

In the sheet method the spray can impinge on the yarn and give an adequate washing. If the yarn is washed by the sprays while in

the form of strands, then a portion of the water is wasted and inadequate penetration into the thick masses of yarn in the strands will not give even washing. If the spray system is used under the best conditions, these sprays may be run at a temperature of 180 F with extremely satisfactory results.

Which Method of Caustic Neutralization?

From the theoretical viewpoint, the neutralization is not really a part of the true mercerization process. Once the caustic in the yarn has been reduced below a concentration of five per cent, then the mercerization properties are set in the yarn. Neutralization of the residual caustic after washing or its removal must be considered only as a subsidiary process. Since, however, neutralization is carried on on the warp mercerizing machine, it can be considered as a practical part of the warp mercerizing process.

Actually then, from the mercerizing standpoint, neutralization is not necessary if the caustic is completely washed out of the yarn. Any residual caustic left in the yarn would tend to darken the yarn during drying, to harshen it, and to a certain extent would reduce the strength and cause somewhat greater dye affinity or even uneven dye affinity. If the washing is completely adequate, and this can be carried on adequately by a proper spray washing arrangement, then no neutralization is necessary whatsoever. Actually, there are very few plants operating mercerizing machines with adequate washing so that the caustic content is reduced in the yarn to almost the point of disappearance. Therefore, a neutralization of this caustic must be carried on.

From earliest times a dilute sulfuric acid has been the sour par excellence for cotton. The use of dilute sulfuric acid for neutralizing the caustic remaining in warp yarns after washing in the warp mercerizing machine has been the standard practice for many years and it is still the standard practice in most plants today.

The one inherent disadvantage in the use of sulfuric acid is that this material in itself must also be removed from the yarn, because its presence during drying would mean a loss in tensile strength. Therefore, the use of dilute sulfuric acid for souring means additional boxes for washing out the acid and generally a final neutralization to bring the yarn to the neutral or slightly alkaline point. Sulfuric acid, however, still remains as the cheapest neutralizing agent available. The use of dilute sulfuric acid for neutralization does have the one advantage of whitening or brightening up the yarn.

A second method for neutralizing the caustic has come into some prominence during the last few years. This is based on the use of sodium bicarbonate to convert the caustic soda to sodium carbonate which is subsequently partially washed out. The theoretical advantage of this method is that, first, there is no danger of leaving any material in the yarn which would materially reduce its tensile strength.

There have been claims that by using the bicarbonate method of neutralization there is also a less violent change of the cellulose from the alkaline condition to the acid condition and hence more even results. This has not been borne out in practice for the most part. The bicarbonate method is in effect simply a more expensive method for neutralizing the excess caustic remaining in the yarn without enough advantages to merit its wide use. Also, the bicarbonate method does not have the property of whitening or brightening the yarn as much as neutralization in dilute sulfuric acid.

In the final analysis, the neutralization problem may be summed up as follows: If it is impossible or uneconomical to wash the caustic out of the yarn, then it is best neutralized with dilute sulfuric acid.

After Neutralization—What?

After neutralization with acid or with bicarbonate the question comes up as to how the yarn should then be handled on the warp mercerizing machine. Should there be continued washing? Should these additional washes be hot or cold? Should there be a final neutralization if sulfuric acid is used? What is the best pH of the yarn before drying for best all around properties in the mercerizing machine?

First, it is to be noted that sulfuric acid is more readily washed out of cotton than is caustic soda. After the yarn has passed through a dilute sulfuric acid bath, it will contain a certain amount of sodium sulfate from the neutralization, as well as calcium and magnesium sulfates derived from the cotton itself. Complete and thorough washing of the yarn after neutralization with sulfuric acid is most important, since uneven amounts of sodium sulfate, or calcium or magnesium sulfate in the yarn will cause uneven dyeing results.

Since no attempt is made to recover the dilute sulfuric acid from the yarn, a system of cold water sprays to wash the yarn after acid neutralization is the most satisfactory method of removing these materials from the yarn. While many plants still use a series of boxes containing wash waters for washing the yarn after acid treatment, more efficient and more satisfactory results from the standpoint of final yarn properties will be obtained by the spray method of washing.

By the spray method the yarn may be washed so free of acid that the pH will be six or higher. With a pH this high, the yarn will not lose any strength during drying; and, in addition, it will be somewhat whiter and brighter than if it were brought over onto the alkaline side.

Where complete washing of the acid from the yarn is not possible because of the particular setup in the warp mercerizing machine, an additional treatment with a dilute bicarbonate bath to neutralize any excess acid should be given. If the machine is long enough, this should be followed by a hot water wash or by a softener treatment. Under these conditions the yarn will be slightly darker and less bright than when the acid is washed completely out of the yarn and where no final alkaline neutralization is used.

In the case of neutralization with bicarbonate, a series of hot water sprays is most satisfactory follow-

ing the neutralization. If sprays are not available and wash boxes are used, then these washes should be run as hot as possible to remove as much of the sodium carbonate and bicarbonate as possible. In some cases where the bicarbonate method is used and where there is not adequate washing following the bicarbonate neutralization, a final dilute bath of acetic acid may be used to brighten the yarn.

What About Softeners in the Warp Machine?

Softeners or finishes for the yarn applied in the final bath of the warp mercerizing machine do have a place. First, a softener may be used as a neutralizing agent or buffer to make sure that no free acid is left in the yarn. This is important of course if the yarn has only been washed after acid neutralization and not also neutralized with an alkali.

Secondly, the addition of a softener at the end of the warp mercerizing machine can insure better separation of the warps after drying and better quilling and winding; and, thirdly, the softener may be applied for the purpose of lubricating or softening the yarn for subsequent knitting.

Softeners for use on warp mercerized yarn will vary greatly in chemical composition, and the choice of a particular softener will depend on the particular experience of the mercerizer. Both exhausting and nonexhausting softeners are being used today. The nonexhausting softeners are more easily controlled, and slight variations in their concentration on the yarn will not cause any real variation in the yarn properties.

In the case of substantive softeners, however, very careful control must be observed and means must be at hand for a constant feed of softener to the bath; this must be related to the weight of yarn being passed through the bath.

For the most part, non-exhausting anionic softeners are used in the warp mercerizing machines today. Usually these softeners are a blend of emulsifying agents and mineral oils and waxes, or sulfonated oils or fats. The common requisite for all of the softeners is a reasonable amount of lubricating power to insure subsequent good quilling and winding.

One important point to note in connection with the use of softeners on the warp mercerizing machine is their stability to particular acid, alkaline, or salt conditions present in the mercerizing machine. For evenness of dyeing and appearance, it is most important that a softener be used which is stable to the particular acid conditions or alkaline conditions which it will encounter on long running

Also, it is particularly important that at the beginning of a run on a warp mercerizing machine, the pH of the softener bath be adjusted to that pH which it would normally have on long running. In other words, if the pH of the last wash bath before the softener bath were 6, then the softener bath should be adjusted to a pH of approximately 6, since the carry over of the previous wash water would tend to keep this at about this pH. The use of softeners containing buffers has an advantage as they can be used to control more easily a particular pH on the yarn.

In conclusion, it may be stated that from the quilling standpoint a small amount of suitable softener in the last bath is desirable. A wide selection of softeners may be used, provided they give a definite amount of lubrication to the yarn. Softeners which are stable to the acid or alkaline condition which will be encountered in the last box of the warp mercerizing machine are recommended.

Hot Air or Can-Drying?

This question is almost academic, for most warp mercerizers today use hot air drying in place of the can drying which was common with warp mercerizers of 25 years ago. In passing, however, it is well to consider the drying as a part of the warp mercerizing process. The drying of the warp mercerized yarn is actually a final setting of the mercerizing effect. Drying conditions can affect the dye affinity of the yarn, the evenness of the dyeing, the softness and appearance of the final yarn.

It is well known that cotton yarn which is allowed to dry at room temperature after mercerizing will have a higher dye affinity than the same yarn dried at a temperature of 200 F or higher. Therefore it is obvious that in such an operation as can-drying, conditions may be present for drying at different temperatures along the length of an end of yarn or from one part of a warp to the other. Such conditions can therefore result in unevenness of dyeing, and can-dried mercerized yarn was characterized by a definite amount of uneven dyeing. Can-drying also has the effect of causing the yarn to be flattened out and somewhat harsh.

Today, most warp mercerized yarns are dried in air dryers. There are many variations in the types of air dryers being used, however, and argument still continues as to which is the best type. Fundamentally, the important thing is that the yarn should be dried thoroughly and at a constant temperature. It makes no difference whether the drying temperature is 120 or 220 F, provided the yarn is thoroughly dried along its whole length during the drying process. In other words, uneven dyeing will result if part of an end of yarn is dried at 120 F and part of it at 220 F.

If all of it is dried at either 120 F or 220 F, or at any intermediate temperature, then the dyeing of this yarn will be even, provided all the previous mercerizing conditions in themselves have not caused any variations. It is also to be noted that drying at a lower temperature tends to give a somewhat higher dye affinity. A circulation of air tends to keep the yarn soft, but too strong a circulation of air may cause entanglement of one end of yarn with another, making difficulties in the final separation during quilling.

Conclusion

There still remain other problems to be discussed in connection with warp mercerizing. Radical changes in equipment design or in technique however do not seem likely in the future. Perhaps real improvements for the future in the mercerization of yarn lie neither in the warp nor in the skein process but rather in the single-end mercerizing method recently disclosed in the Luther patents [see TEXTILE INDUSTRIES for May, 1955, p. 105].

Quill Winder Production Increased 14%

By making machine changes

By adopting a nonstop preventive maintenance program

By adhering to a comprehensive lubrication schedule

STAFF PREPARED
EXCLUSIVE

AUTOMATIC QUILL WINDER was increased in winding speed from 3500 rpm to 4000 rpm. This called for some machine changes, a preventive maintenance program, and a careful lubrication schedule.

AT ROBINSON Cotton Mills Limited, Woodbridge, Ontario, management believes in providing a complete engineering service for each of its manufacturing departments, be it spinning, weaving, or wet processing. This includes recognizing a problem, finding its solution, and applying that solution through the co-ordinated efforts of plant engineers, technicians, and appliance crews.

To illustrate an application of this service, this account will tell the story of the filling winding department.

To supply 144 looms with enough 15s cotton filling to keep flannelette weaving running smoothly, a 140-head Abbott quill winder was provided and run at the standard speed of 3500 rpm. This speed dropped 24 to 26 8¾ x 1⅛ inch quills per minute in the basket. This production proved to be inadequate and the speed was increased to 4000 rpm, or 34 heads per minute.

In order to accomplish this, certain machine changes appropriate to Robinson's own conditions were made; provisions were made to clean, repair, and replace moving parts on a regular basis; and lubrication schedules were expanded and stressed.

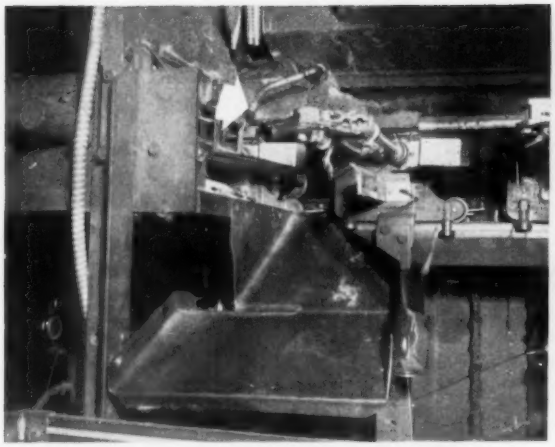
Mechanical Adjustment. At a speed of 34 heads per minute, timing of all motions had to be close and positive. In one case, an empty quill dropping from the feed bin onto the top plough had a tendency to bounce at the higher speed. To compensate for this, an air jet was installed and directed continuously at the top of the quill barrel; this allowed more time for the quill to settle before being transferred into the head chuck.

It was discovered that the cork in the thread guide assembly stuck frequently on the traverse rods. To avoid time losses, which amounted to as much as two hours per week, in the removal and oiling of these corks and replacing a fresh lot, it was decided after trial to adopt a procedure of oiling the traverse rod both before and behind the thread guide. This was set up to be done once a shift by the operator while the machine is in operation, and by adhering to this the corks are changed only twice a year.

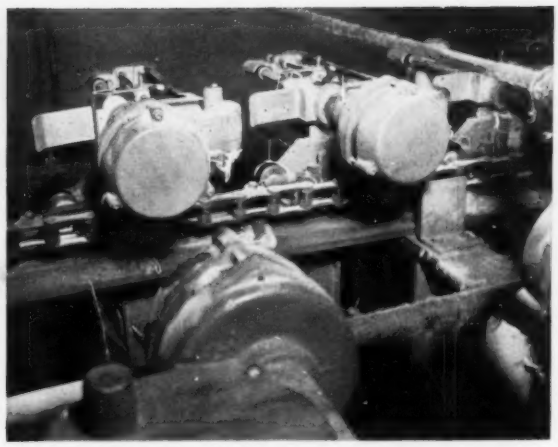
Another result of the higher speed was a tendency for springs on the drag links to fall off. This was avoided by bolting spring ends down to the individual head.

A final result of the higher speed was an increased amount of fly. To keep critical parts clean, six air jet units were installed around the circumference of the machine. Each unit consists of two jets: one directed at the top of the cone feed, the other at the thread tensioning discs.

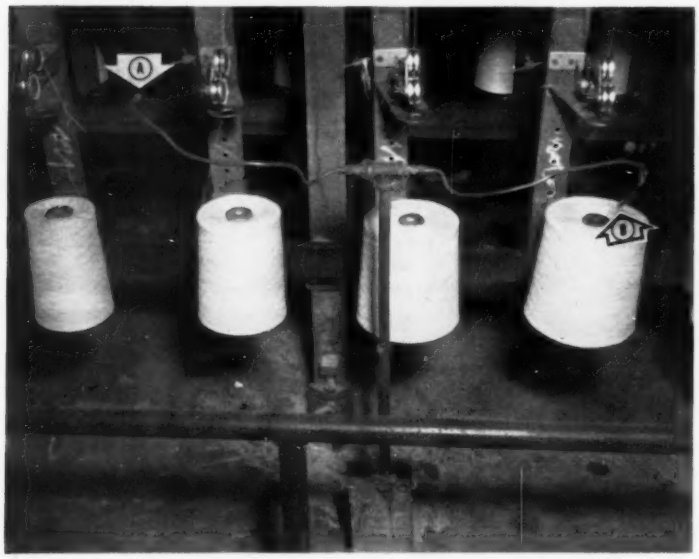
Preventive Maintenance. As a matter of good mill policy, with particular benefit derived through parts savings and reduced breakdowns because of higher speeds, Robinson Cottons started a scheduled maintenance program. Each of the 140 quiller heads is removed, torn down, cleaned, assembled, and replaced every two months. While this is done, bad or worn parts are either repaired or replaced. The job is set up to be done on



AIR JET (arrow) was installed at barrel of empty quill dropping into place for quill transfer. This was required to reduce bouncing on top plough, and to "tighten up" on timing.



SPRING ON DRAG LINK was bolted down to prevent frequent falling off and fires which accompanied higher speeds.



SIX AIR JET UNITS like this one were installed around the machine to clear fly. Each unit was directed to plate tension level (arrow **A**) and cone top level (arrow **B**) so that these parts are cleaned as they move past the air jets.

THREAD GUIDE ASSEMBLY traverse bar is oiled on each side of the assembly every shift by the operator. This has reduced replacement of cork frictions to twice a year.

Lubrication Schedule for Abbott Quill Winders*

1. Traveling unit
   Cam and worm gear: every three weeks; lime-base adhesive pressure grease, NLGI Grade No. 1.
   Roller bearings: every five weeks; high-temperature ball bearing grease.
   Bobbin tip holder: daily while running; paraffinic type oil, 100-120 viscosity, SUS at 100 F, with rust and corrosion protective qualities and oxidation stability.
   Bobbin tip bracket: daily; same oil as bobbin tip holder.
   Traverse rod: each shift (lubricated on each side of the thread guide assembly by machine tender); same oil as bobbin tip holder.
2. **Bobbin finger bearings:** weekly; same oil as bobbin tip holder.
3. **All bearings on bobbin hoist:** weekly; mineral oil especially compounded to reduce leakage, 330-360 viscosity, SUS at 100 F.
4. **Traveling unit wheels:** weekly; same oil as bobbin tip holder.
5. **Guillotine:** daily; same oil as bearings on bobbin hoist.
6. **Worm ger unit:** monthly; change oil and check level; high quality, extreme pressure lubricant, viscosity 300-350, SUS at 100 F.

*Note: This schedule carried out by maintenance man, unless otherwise indicated.

one shift by one maintenance man, who follows a similar schedule on cone winders.

In order to prevent production loss during this program, five spare quiller heads are provided to replace the heads as they are removed for maintenance: three quiller heads are removed and maintained daily.

The heads, broken down after removal, are dipped and brushed in a solvent containing a little light oil. This is followed by blowing off.

When assembled, the quiller head is oiled and greased at all bearings, and at repair and replacement parts; finally, spindles are tested for balance before replacement of the head in the winder.

When replacing the heads, the maintenance man does not leave the machine until he is sure that it is running properly.

Lubrication. Another measure that Robinson management feels is directly related to costs is lubrication. Since any speed increase affects the critical need for lubrication, considerable attention was directed to setting up and following a lubrication schedule. The schedule based on the Abbott Machine Company's recommendations, appears on the preceding page.

QUILLER HEADS are scheduled for a complete break-down, cleaning, and parts replacement once every two months. Maintenance man here is cleaning a unit.

Weave Room Records Simplified With Standard Forms

BY MARK HAINES
EXCLUSIVE

OVER A PERIOD of several years our mill has developed a procedure for an easy conversion from pick clock reading to yards woven; pounds of warp and filling yarn used by various counts, and whether white or colored; loom efficiency; absorbed cost of production for weavers, battery men, fixers, and other indirect labor; and overhead. These data also provide complete information for determination of filling winding production and cost, cost variances, production planning data, continuous book inventory, weighted average cost per thousand picks, etc.

This, we have reason to believe, should be of benefit to mills producing cloth of various constructions on different types of looms, and where it is much more difficult to keep track of production and of cost details than in mills weaving only one or two different types of fabrics.

For example, let us consider that one group of looms, dobbies, has a speed of 125 ppm, that the second group consists of Jacquards, one section running at 110 ppm, and

WEAVING MILLS, INC.
WEAVE SHOP REPORT FOR W/E December 18

60 - DOBBY - 125 P.P.M.

Loom #	Style & Width	1st. Shift Hrs.	1st. Shift % Eff.	1st. Shift M Picks	2nd. Shift Hrs.	2nd. Shift % Eff.	2nd. Shift M Picks	3rd. Shift Hrs.	3rd. Shift % Eff.	3rd. Shift M Picks	TOTALS Hrs.	TOTALS % Eff.	TOTALS M Picks
1	Nancy 56"	40		236	40		232	32		230	112		638
2	Diane 63"	40		238	40		234	32		229	112		701
3	Nancy 72"	40		235	40		231	32		220	112		686
4	Nancy 72"	16		65	18		73	18		70	52		208
	Lee 72"	24		128	24		135	24		131	72		394
etc.	etc.												
	TOTALS	160		902	164		905	140		880	464		2687

WEAVING MILLS, INC.
WEAVE SHOP REPORT FOR W/E December 18

1280 Hooks
58 - JACQUARD - 105 PPM

Loom #	Style & Width	1st. Shift Hrs.	1st. Shift % Eff.	1st. Shift M Picks	2nd. Shift Hrs.	2nd. Shift % Eff.	2nd. Shift M Picks	3rd. Shift Hrs.	3rd. Shift % Eff.	3rd. Shift M Picks	TOTALS Hrs.	TOTALS % Eff.	TOTALS M Picks
169	Patricia 70"	48		245	48		248	48		239	144		732
170	Anne 76"	20		98	24		120	20		100	64		318
	Patricia 76"	20		103	24		128	12		61	56		292
171	Anne 76"	48		240	48		250	48		228	144		718
172	etc.												
etc.	etc.												
	TOTALS	136		692	144		746	128		628	408		2066

the other section at 105 ppm. A third group of looms is composed of Jacquards equipped with a 4x1 box motion, and making 100 ppm.

The second hand on each shift totals his hours run and pick clock reading for the week opposite each loom, and indicates the type of cloth produced by style name and width. This constitutes the Preliminary Report, as shown herewith in a somewhat shortened manner.

It will be noticed that changes in styles are frequent and properly recorded. Style "Nancy" replaced "Lee," and style "Anna" followed "Patricia" sometime during the week.

First, the same styles of each width are grouped together by indicating the number of looms, hours run, and thousand picks inserted. This grouping is performed on a hectographed Standard Work Form, totaled, and extended by the respective standards which represent a value per thousand picks for each style. An efficient method consists of setting the total picks of a style in the calculating machine and extending consecutively by the various equivalent standards, and recording each result in the provided space in the proper column. The method is illustrated in the Standard Work Form (see pp. 160-161). Although necessarily summarized, it will give an idea of the work involved.

It will be seen that certain styles, such as "Nancy" and "Clara," or "Lola," "Rose," and "Alice," are grouped together. This is due to the fact that these fabrics have the same construction, and the only

WEAVING MILLS, INC.

WEAVE SHOP REPORT FOR W/E December 18

856 Hooks
59 - JACQUARD - 110 PPM

Loom #	Style & Width	1st. Shift Hrs.	1st. Shift % Eff.	1st. Shift M Picks	2nd. Shift Hrs.	2nd. Shift % Eff.	2nd. Shift M Picks	3rd. Shift Hrs.	3rd. Shift % Eff.	3rd. Shift M Picks	TOTALS Hrs.	TOTALS % Eff.	TOTALS M Picks
109	Adele 63"	40		175	40		163	40		168	120		512
110	Alice 63"	40		180	40		170	40		162	120		512
111	Nelly 54"	40		163	40		165	40		160	120		434
112	etc.												
etc.	etc.												
	TOTALS	120		524	120		504	120		430	360		1518

WEAVING MILLS, INC.

WEAVE SHOP REPORT FOR W/E December 18

856 Hooks
48 - JACQUARD - 110 PPM

Loom #	Style & Width	1st. Shift Hrs.	1st. Shift % Eff.	1st. Shift M Picks	2nd. Shift Hrs.	2nd. Shift % Eff.	2nd. Shift M Picks	3rd. Shift Hrs.	3rd. Shift % Eff.	3rd. Shift M Picks	TOTALS Hrs.	TOTALS % Eff.	TOTALS M Picks
61	Lola 72"	40		180	32		148	16		80	88		408
62	Polly 72"	40		176	32		150	40		179	112		505
63	Adele 63"	40		188	40		178	40		175	120		541
64	Rose 72"	32		182	40		130	40		176	112		548
etc.	etc.												
	TOTALS	152		726	144		666	136		610	432		2002

WEAVING MILLS, INC.

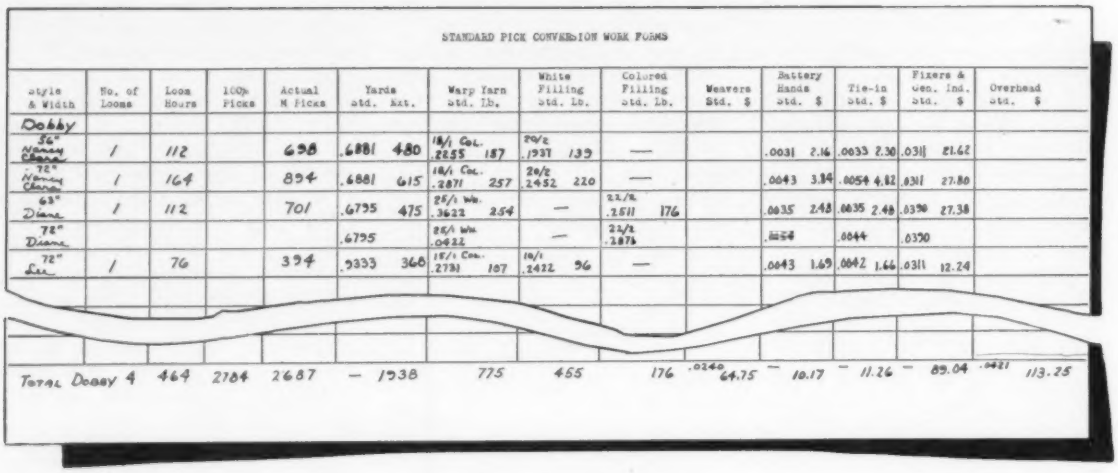
WEAVE SHOP REPORT FOR W/E December 18

60 - C-4 JACQUARD - 100 PPM

Loom #	Style & Width	1st. Shift Hrs.	1st. Shift % Eff.	1st. Shift M Picks	2nd. Shift Hrs.	2nd. Shift % Eff.	2nd. Shift M Picks	3rd. Shift Hrs.	3rd. Shift % Eff.	3rd. Shift M Picks	TOTALS Hrs.	TOTALS % Eff.	TOTALS M Picks
228	Sally 30"	48		230	48		225	40		186	136		641
229	Eleanore 76"	48		228	48		240	40		180	136		648
230	Nina 30"	48		232	48		229	40		180	136		641
231	Nina 30"	48		241	48		233	40		185	136		665
etc.	etc												
	TOTALS	192		931	192		933	160		731	544		2595

Amount of Yarn Used

Warp Yarn	**lb**
18/1 colored	1032
18/1 white	175
25/1 colored	—
25/1 white	254
20/1 colored	386
16/1 colored	1695
15/1 colored	107
5/1 white	163
10/2 white	225
10/2 colored	314
8/2 white	529
6/4 white	—
	4480
Filling Yarn	**lb**
10/1 Wh Rayon	574
10/2 Col. Nub.	555
2.5 Col. Lurex-Rayon	28
1.9 Col. Ratine	—
10/1 white	96
5/1 colored	150
5/1 white	260
4/1 white	1362
22/2 colored	176
20/2 white	359
20/2 colored	113
15/2 colored	106
10/2 colored	1042
10/2 white	730
9/2 colored	30
9/2 white	325
8/2 white	282
	6188
Total	10,668



STANDARD PICK CONVERSION WORK FORMS

Style & Width	No. of Looms	Loom Hours	100s Picks	Actual M Picks	Yards Std.	Yards Act.	Warp Yarn Std. Lb.	Warp Yarn Act. Lb.	White Filling Std. Lb.	Colored Filling Std. Lb.	Weavers Std. $	Battery Hands Std. $	Tie-in Std. $	Fixers & wea. ind. Std. $	Overhead Std. $
Dobby															
56" Nancy Clare	1	112		698	.6881	480	18/1 Col. .2855	187	20/2 .1931	139 —		.0031 2.16	.0035 2.30	.0311 21.62	
72" Nancy Clare	1	164		894	.6881	615	18/1 Col. .2871	257	20/2 .2452	220 —		.0043 3.14	.0054 4.82	.0311 27.80	
68" Diane	1	112		701	.6795	475	25/1 Wh. .3622	254	—	22/2 .2511	176	.0035 2.48	.0035 2.48	.0390 27.38	
72" Diane					.6795		25/1 Wh. .0422		—	22/2 .2874		.0054	.0044	.0350	
72" Lee	1	76		394	.9333	368	15/1 Cor. .2781	107	18/1 .2422	96 —		.0043 1.69	.0042 1.66	.0311 12.24	
Total Dobby 4		464	2784	2687	—	1938		775		455	176	.0240 64.75	— 10.17	— 11.26	— 89.04 .0421 113.25

differences, which may consist of coloring and design, will not affect production or weaving costs, when woven on the same type of loom.

Upon completion of extensions, obtained values are totaled in their respective columns, then they are grouped again by type of looms as shown in the summary.

A complementary report is also prepared showing in detail the amount of yarn used in weaving (see table on page 159).

This information is also used to find the production and cost of filling winding, the assumption being that all produced filling is completely used in weaving. It is safe to assume that over a period of time the production of filling winders will tend to equalize the picks woven. Of course, there is also waste, but its minimal quantity will not require any consideration of this factor.

Both the preliminary report and the Standard Work Form provide space for calculating efficiency by individual looms and loom section (preliminary report); and by loom type and by style (in the Standard Work Form). However, as a general rule, only the efficiency by type of loom is determined in the summary, and if results show a marked decrease, an investigation could determine if the loom or the loom section is at fault, or if the fabric is difficult.

Finally, it should be remarked that obtained absorbed cost values are very important for tracking down excessive losses. Absorbed costs are compared with the actual expenses of respective labor classifications to determine cost variances.

All standards on the Work Form are calculated from our Fabric Cost sheets. For instance, from our construction and cost of style "Sally," we know the following:

Warp:			
	B.b. 18/1 colored		.4427 lb/yd
	T.b. 10/2 white		.1280 lb/yd
Filling:			
	Lurex-Rayon 2.5	(40)	.0501 lb/yd
	15/2 colored	(450)	.1912
	9/2 colored	(78)	.0547
	5/1 white	(586)	.4675

Total average picks per yard is 1154. Thus there are 1/1154 or .8666 yards per thousand picks. Also .4427/1154 or .3836 lb per thousand picks of 18/1 colored, etc.

In regard to cost, we know that this particular style runs at 100 ppm and produces:

$$\frac{100 \text{ ppm} \times 70\% \text{ std eff} \times 60 \text{ min/hr} \times 40 \text{ hr/wk}}{1154 \text{ picks per yard}}$$

gives 145.5 yards per 40-hr loom week (from cost sheet).

We also have determined our cost for weaving as being 4½ cents per thousand picks for the group of looms in question.

The battery man cost is $2.50 per loom week. Referring to the above loom week productivity, we get $2.50 (145.5 x 1154) or $.0149 per thousand picks.

Fixer and other indirect labor costs $12.15 per loom week or $.0724 per thousand picks.

Warp tie-in is $1.55 per thousand ends for both warps, or 5400 total ends @ $1.55 makes $8.37 per beam set.

In order to simplify calculations, we consider here that each beam has a crimp of 8½%.

Thus,

$$\frac{8.37 \times 1.085}{1200 \text{ yd/beam}}$$

will give $.0760 per yard or $.0724 per thousand picks.

Overhead is $13.75 per 40-hr loom week, or $.0819 per thousand picks.

Readers must be warned that standards, variable data, and all extensions are not actual figures but have been used solely for illustration purposes.

An interesting feature of time economy in extension work consists of grouping different constructions that have several common equivalent standard values. For example, std yd per thousand picks; weaving, fixing, and general indirect labor; and overhead standard costs per thousand picks are the same for styles "Nelly" to "Penny," which are all on the same page.

The described work form permits a continuous checking procedure which reduces any possibility for error to a strict minimum. Each page, group, or section of looms on the preliminary report is transferred and grouped separately on the Standard Work Form, and is always shown in a different color for quick and easy separate checking purposes.

Furthermore, the over-all cost totals can be checked separately for correctness by determining weekly the percentage of each totaled column to the total cost. Any sudden change in the ratio of

STANDARD PICK CONVERSION WORK FORMS

Style & Width	No. of Looms	Loom Hours	100s Picks	Actual M Picks	Yards Std.	Yards Act.	Warp Yarn Std.	Warp Yarn Lb.	White Filling Std.	White Filling Lb.	Colored Filling Std.	Colored Filling Lb.	Weavers Std.	Weavers $	Battery Hands Std.	Battery Hands $	Tie-in Std.	Tie-in $	Fixers & Gen. Ind. Std.	Fixers & Gen. Ind. $	Overhead Std.	Overhead $
JACQUARD																						
56" Nelly	1	120		494			18/1 WH. .3550	175	—		20/2 .2295	113			.0099	4.89	.0048	2.37				
63" Nelda Alma	1/ 1	120 120		541 512			16/1 Col. .3891 8/2 WH.	563	4/1 .5116	800	—				.0121	18.95	.0064	10.05				
72" Lula Rose Alma	1 1	120 80 112		512 408 598			.1386 16/1 Col. .4450	217 425	4/1 .5895	562	—				.0135	12.30	.0074	7.07				
63" Polly							8/1 WH. .1682 16/2 Col. .2890	151	9/2 .5665		—				.0125		.0062					
72" Polly	1	112		505			10/2 Col. .6235	34	7/2 .6430	325	—				.0138	6.97	.0073	3.68				
63" Penny							15/1 WH. .5897		10/1 .4725		—				.0124		.0060					
TOTAL	7	792	5227	3520	1.1210	3950		1845		1687		113	.0315	110.10	—	43.71	—	23.17	.0411	144.50	.0611	215.00

STANDARD PICK CONVERSION WORK FORMS

Style & Width	No. of Looms	Loom Hours	100s Picks	Actual M Picks	Yards Std.	Yards Act.	Warp Yarn Std.	Warp Yarn Lb.	White Filling Std.	White Filling Lb.	Colored Filling Std.	Colored Filling Lb.	Weavers Std.	Weavers $	Battery Hands Std.	Battery Hands $	Tie-in Std.	Tie-in $	Fixers & Gen. Ind. Std.	Fixers & Gen. Ind. $	Overhead Std.	Overhead $
JACQUARD																						
70" Patricia	1	144		732			18/1 Col. .5510 WH. .2430	250 108	10/1 Rayon .5424	397	5/1 Col. .1420	104			.0131	9.60	.0065	4.75				
74" Patricia	—	56		298			18/1 Col. .2295 WH. .1220	114 46	10/1 Rayon .5438	177	5/1 Col. .1540	46			.0140	4.17	.0070	2.08				
76" Anna	2	208		1036			16/1 Col. .4200 8/2 WH. .1865	435 161	—		10/2 Col. .5355	555			.0140	14.50	.0070	7.25				
TOTAL	3	408	2570	2066	1.2300	2740		1122		574		705	.0385	79.30	—	28.27	—	14.08	.0885	120.09	.0764	155.80
TOTAL JACQUARD	10	1200	7797	5586		6690		2967		2261		818		189.40		71.98		37.25		464.59		370.80

STANDARD PICK CONVERSION WORK FORMS

Style & Width	No. of Looms	Loom Hours	100s Picks	Actual M Picks	Yards Std.	Yards Act.	Warp Yarn Std.	Warp Yarn Lb.	White Filling Std.	White Filling Lb.	Colored Filling Std.	Colored Filling Lb.	Weavers Std.	Weavers $	Battery Hands Std.	Battery Hands $	Tie-in Std.	Tie-in $	Fixers & Gen. Ind. Std.	Fixers & Gen. Ind. $	Overhead Std.	Overhead $
C-4 JACQUARD																						
90" Sally	1	136		641	.8666	555	18/1 Col. .3834 WH. .1176	246 71	2.5 Rayon Linen .0938 8/2 WH. .4871	28 260	11/2 Col. .1627 8/2 WH. .4242	106 30					.0066	4.23				
90" Nina	2	272		1306	.7950	1038	24/1 Col. .3192 8/2 WH. .1818	386 163	10/2 WH. .5590	730	10/2 Col. .6420	838					.0046	8.62				
76" Eleanor	1	136		648	1.1000	713	16/1 Col. .4200	272	8/2 WH. .4352	282	10/2 Col. .3145	204					.0056	3.63				
90" Eleanor					1.1000		16/1 Col. .4360		8/2 WH .5150		8/2 WH .5150						.0066					
TOTAL C-4	4	544	3264	2595	—	2306		1138		1300		1178	.0650	116.75	.0149	38.60	—	16.48	.0734	188.00	.0813	210.20

Summary

	No. Looms	Loom Hours	100% Picks	Actual M Picks	Yards	Warp Yarn	White Filling	Colored Filling	Weavers	Battery Hands	Tie-In	Fixers & Gen. Ind.	Over-head
Dobby	4	464	2784	2687	1938	775	455	176	64.75	10.17	11.26	89.04	113.25
Jacquard	10	1200	7797	5586	6690	2967	2261	818	189.40	71.98	37.25	264.59	370.80
C-4 Jacquard	4	544	3264	2595	2306	1138	1300	1178	116.75	38.60	16.48	188.00	210.20
Totals	18	2208	13845	10868	10934	4880	4016	2172	370.90	120.75	64.99	541.63	694.25

each cost classification to the total cost will indicate an error, unless it can be explained by the increased or decreased production of certain fabrics which are known to be very expensive. A comparison from week to week of the various totals, such as yards, pounds of warp yarn, and pounds of filling yarn will also provide a good check. Experience has shown that these totals and mentioned ratios change very slowly and thus provide a very safe yardstick.

The greatest inconvenience in using our method for calculating production efficiency and cost is that all standard work forms must be carefully kept up to date, and so, due to style changes, we hectograph forms for several months only. Many changes are made directly on old stencils. Extra spaces on stencils provide room for new styles which are typed in as soon as introduced.

However, the obtained information more than makes up for the work involved, since it provides us with a most complete and useful tool in these times of competitive prices.

Textile Mill Maintenance Round Table

How maintenance departments are organized . . . maintenance methods for electric motors and controls, processing machinery, instruments, and air conditioning equipment.

STAFF REPORT

DURING the period January 23 to 25, 1956, maintenance specialists gathered in Philadelphia, Pa., for the 7th National Plant Maintenance & Engineering Conference. Included on the program were general and specialized technical sessions and a show participated in by over 350 exhibitors.

Of particular interest to textile mill men was a meeting of plant engineers designed by James W. Ward of Avondale Mills, Sylacauga, Ala., to follow an agenda of topics common to most textile mill maintenance, and to bring out problems and progress on them. Information so exchanged originated with the experiences of Mr. Ward and was added to by those participating in the discussion.

Following is a summary of this textile mill maintenance forum:

Maintenance Department Organization. *Company A*, a nine-plant diversified cotton mill group with three mills in one city, has a similar maintenance organization in all plants; a single central maintenance system serves the three mills located in the same city.

Organization is headed by a master mechanic who is responsible only to the plant superintendent. Responsible to the master mechanic are the following crafts (each of which is headed by a foreman): electrical, machine shop, pipe fitters, plumbers, carpenters, air compressor room, boiler room, guards, welders, humidifier men, outside maintenance, and painters.

The number of craftsmen and helpers in each department depends on the amount of work to be done. For example, the three-mill group, employing 2100, employs a 50-man maintenance force plus 13 guards. In a small mill, one man might have several of these maintenance jobs. In another, a special lubrication department has been added, consisting of a foreman and seven oilers, which performs all lubrication with excellent results; departmental size for each mill is budgeted on an installed hp basis.

Basic maintenance and engineering problems for all mills are met by two central departments: electrical engineering with an engineer and an instrument technician; mechanical engineering with engineer and engineer-draftsman.

Major repairs and installation of new equipment are handled by maintenance under a budgeted "project number" system. Preventive maintenance records have not yet been generally installed; a work order system is used in which personnel time cards at work on a job are submitted to cost accounting. Management is in favor of establishing preventive maintenance systems, and they are in the process of being set up.

Company B. Each of these mills (integrated cotton) has its own plant engineer, shop foreman, electrician, painter, yard foreman, and boiler room man. The plant engineer, at the head of this maintenance group, reports to the vice-president of manufacturing of the plant.

All of the grey mills have their own independent fixers, and maintenance adds to their skills in certain cases. At one mill, with 600 employees, there are 25 in the maintenance trades, and 25 men make up the watchman force and labor gang.

When comparing the number of maintenance personnel employed with the total number of employees, it is necessary to consider the general type of mill. Grey mill figures will usually include many actual maintenance folks, such as loom fixers, who are not included in the maintenance force.

Company C, a large woolen and worsted mill, has instituted a preventive maintenance program. It is headed by a plant engineer, and consists of maintenance crew and a maintenance center serviced by one man and one female clerk.

This center is the point from which job orders for maintenance work are issued, and the job order numbers are recorded at the center and charged with the time required to do the job. This information is passed on to the IBM department where maintenance labor is charged against a particular machine. This system, in force six months, costs more than usual for personnel but has been found to pay off.

Maintaining Electric Motors. One of the mills in *Company A* has 80 electric motors and uses a preventive maintenance system for them. One man spends most of his time

making the rounds lubricating the motors and keeping his own schedule records.

Lubrication method includes removing the bottom plug and lubricating the bearings from the top. It is best to take down spinning motors (and motors similar) once a year, wash the stator and armature with carbon tetrachloride, paint with Glyptol Lacquer, clean shafts and bearings, check them for wear, and finally repack the bearings. At the one plant where this procedure is followed, the number of motor or bearing failures has been negligible.

While some prelubricated bearings in this mill have been operating satisfactorily for a number of years, two sets of loom motor bearings have required replacement.

"We are at the forks of the road on the continued use of lint-free motors or making the change to totally-enclosed, fan-cooled motors," said a spokesman for the company. "This is also true on splash-proof motors in the dye house. My thoughts on the subject are that the TEFC motors give better maintenance-free service and cost less for rewinding. I have heard that there is a possibility of forcing grease from the motor bearing immediately after start-up or into the motor housing after shutdown due to expansion and contraction of air in the motor. While new developments may be more fool-proof, careless washing-down by machine operators is a problem."

Mill D. We have 1308 motors ranging in size from ¼ to 75 hp. We keep a card record for each motor which lists the use, location, age, and schedule of maintenance. Each Monday morning, the chief electrician is given a cleaning and lubrication check-off schedule for the week.

Company B. Our grey mill contains 75 motors; we don't have a continuous inspection system, because we don't have enough failures to warrant one.

Mill E. We rebuild our motors every two years. Between times, the electrician spot-checks motors and pulls out the bad ones. We keep enough spares around to replace pulled motors, and minimize shut-downs from this cause.

Company C. One of our woolen spinning frames is generally shut down all the time while the motor is being maintained. We allot time for this purpose.

Maintaining Electric Motor Controls. All controls are blown out and the contacts checked occasionally at *Company A.* When a preventive maintenance system is installed, controls will be cleaned on a regular schedule along with motors. They should be blown out, wiped, the contacts checked for cleaning or replacing, and finally operated to check them mechanically, in the opinion of the spokesman for Company A.

Maintaining Production Machinery. One of the mills in Company A has a scheduled production machinery maintenance program. It is built around records that are kept by a clerk in the quality control department. There is a card for each machine; it is tabbed by month for general lubrication and maintenance, and for complete overhaul.

An oiling schedule is issued to the spinning department each week. The frames and the parts on those frames to be oiled are indicated on the schedule.

Overhaul cards are issued twice a month; these also list the machine or machine part or parts to be overhauled.

Maintenance men (fixers) use the cards as check lists and return them to the clerk upon completion. This system is proving successful.

Examples of schedules used follow:

Spinning — Overhaul head end each three months; clean rollers and aprons at the same time.

Fly Frames — General overhaul once a year; clean aprons each three months.

Drawing — Clean rollers once a week; overhaul each six months.

Mill F. We have a preventive maintenance system for our nylon spinning machinery which includes an annual overhauling requiring a total downtime for this purpose of eight hours a year. Motors are rewound and all mechanical maintenance performed. The man who does the work keeps the records to avoid work duplication.

Mill D. We have a regular maintenance requisition system. If a job requires more than 15 minutes, a requisition is issued from a control clerk in a central office. It goes to the craft foreman involved, then back to the control clerk for costing. About 600 such requisitions are filed a month; we can determine costs and other statistics by machine and by department quickly by this system. The system pays for itself.

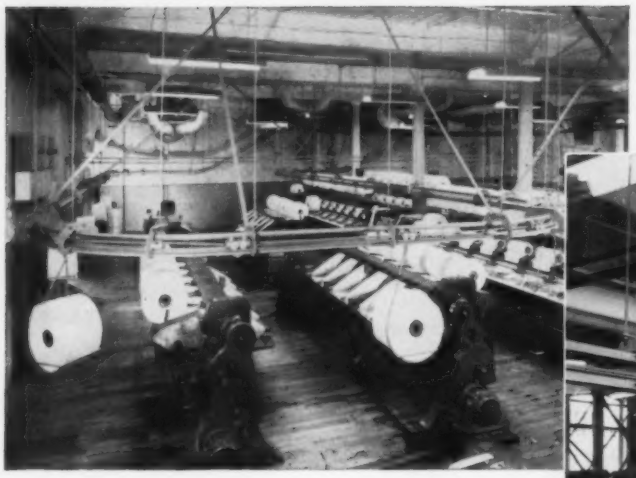
Instrument Maintenance. An instrument engineer, an instrument foreman, and six or seven technicians are employed in our synthetics mill *(Mill G).* These men had no previous maintenance experience. They are high school graduates, and we are giving them a correspondence course in industrial instrumentation.

Mill H. To provide service for our 20 or 30 instruments, we sent a man to a school conducted by an instrument manufacturer. The man is not an electrician, but he can service the equipment by changing parts and tubes as needed and returning the old ones to the factory.

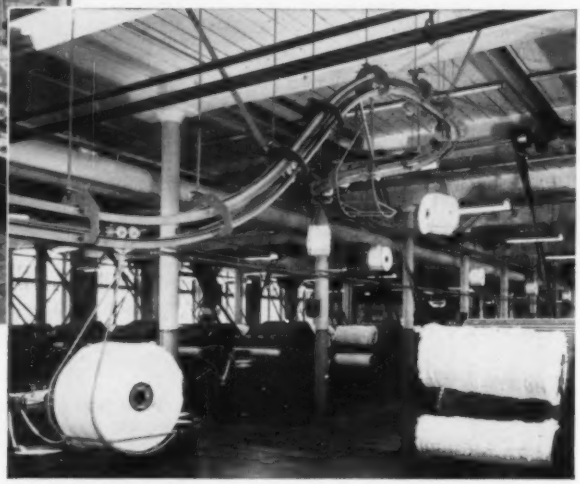
Company A. We had too much down time on our instruments; and after deciding to put a specialist on the job we are now back in the instrument business with nothing more than a tube out once in a while. We took a loom fixer who was interested, let him get some practical experience first, then sent him to a school.

Mill E. For better instrument maintenance we decided to simplify and use one or two types of instruments from only one manufacturer. We took a man and gave him an indoctrination period on the equipment, then sent him to school for four weeks, and it has worked well.

Air Conditioning Equipment. Humidifiers and air change equipment in the mill of *Company A* are maintained as follows: First shift — cleans heads and blows down; second shift — cleans controls; the men are off one day a week, and clean air change fan



Sliver laps are transferred continuously between the combers and the lappers on a Landahl Chainless Conveyor.



Complicated curves are no problem with Landahl Chainless Conveyor. The light track sections are easily fabricated into short radius turns in any direction.

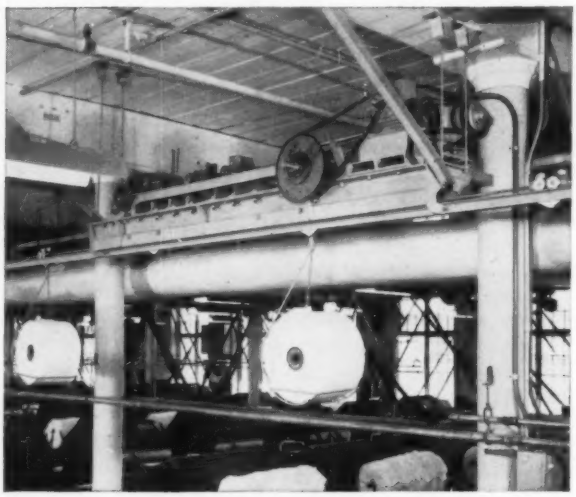
new CONVEYOR SOLVES OLD HANDLING HEADACHE

The unique patented design of the Landahl Chainless Conveyor offers many distinct advantages not found in any other conveyor.

Basically, the conveyor is a series of solid steel rods connected by ball-and-socket type universal joints housed in compact trolley units. The trolley units move freely on ball-bearing steel wheels, over tracks formed by parallel steel angles supported from above by track plates.

These design advantages make the Landahl Chainless Overhead Conveyor lower in initial cost, more flexible, simpler to install, safer to operate and easier to maintain than any other system.

Write for Bulletin G-100—showing many other advantages of Landahl Chainless Overhead Conveyors.



Caterpillar drive brings dogs in pairs mounted on endless roller chain down to engage the Landahl trolley housings for forward propulsion.

LANDAHL **Chainless** CONVEYORS

Photos courtesy F. W. Poe Mfg. Co., Greenville, S. C.

The LANDAHL CONVEYOR CO.

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units on the week-ends.

Mill I. A good practice in maintenance of air washers is to get a good flushing compound to put through the central station system regularly to rid it of scale, etc.

Troubles In King Cotton's Realm (Part 1)

BY RINGGOLD ARDEN

EXCLUSIVE

IT IS unusual for spinners to get together these days without discussing relatively new, and very serious, problems regarding the kind of cotton they are now able to get.

Spinners pay premium prices for cotton that looks like strict middling grade, or perhaps good middling cotton, but which makes the kind of yarn they used to expect from bright strict low, or low middling cotton. Some spinners complain that the low grades which used to contain quantities of large leaf, now contain trash so fine that they can not clean the stock. Practically everybody complains about increased neppiness.

Spinners frequently do not understand what is wrong with the cotton because they are not familiar with the details of cotton raising and harvesting, and the methods of ginning. They do know, however, they are paying higher prices for worse cotton.

To understand much about what has been going on, and why it will continue to go on, it is necessary to go back to the farmer's problems. These are basically industrial problems.

For generations the American farmers have produced an exportable surplus of many farm products, and of all of these, cotton played the biggest part in the export market. For a great while the world was practically dependent on the southern section of the United States for its cotton supply. This cotton was raised prior to the Civil War with cheap slave labor, and after the Civil War up until comparatively recent times, with pauper labor. It could compete on better than even terms with cotton raised in any other country, and it was very good cotton.

Beginning about 1915 or 1916, when the First World War greatly accelerated the rise of industry in the United States, the pauper labor on the farms began to drift away into better paying industrial jobs, and this drift has continued. It was tremendously speeded up during the Depression, when the national government would pay doles to those who preferred to loaf in towns rather than to work on farms. Under such conditions, the growing and harvesting of cotton had to be mechanized or the amount of the crop reduced. It has been mechanized.

There is nothing that can be done about this mechanization, and we in the textile industry must learn to live with it. What we can do, however, is to demand that practices employed by farmers and ginners give proper consideration to the needs and the welfare of the spinners as well as the farmers.

The cotton farmer's problem is an industrial one from two points of view. First, he is becoming an industrialist himself. Second, almost everything he buys is made in a highly inflated industrial economy.

Spokesmen for different national administrations have loudly insisted that inflation was being discouraged, but in practically every instance this was a case of the voice being the voice of Economic Stability, but the hand being the hand of Inflation. No matter how much lip service was given by politicians to the cause of economic stability, their actions continued to fuel the inflation.

There is practically no limit to the heights to which wages and prices can go in a country where the currency can expand illimitably. There is a very definite limit to how high the price of an export commodity can go, and the cotton farmer produces an exportable commodity.

Some years ago the national government was persuaded to subsidize the farmers. The term "subsidize" causes a lot of politicians to shudder, but we might as well call our farm program by a realistic name. The government does subsidize it, and the money for the subsidy comes out of the pockets of the general taxpayers, the great majority of whom are not farmers. The farmer is therefore encouraged to raise something for sale which can't be sold on any open market. A certain amount of it can be sold in the closed market of the United States, but much of the residue is unsalable abroad at the United States prices.

It has often been truly said that where Politics comes in at the door, Reason flies out of the window. Any industry which depends on government subsidies is going to develop an infinite amount of corruption, regardless of whether the industry is the building of battleships or the raising of peanuts.

Such an industry prospers, not because it produces a needful commodity at a salable price, but because politicians who have at their command the disposition of federal funds can be persuaded to hand out bigger doles.

Such a situation leads to some peculiar results, and one of the most obvious of these is the development of the big farmer. With an assured market, at a stabilized price, the big farmer becomes an industrialist himself. He is no longer a farmer at all, but a factory operator. He runs a cotton factory or a wheat factory or a corn factory as the case may be. Like any other manufacturer he produces a highly specialized product at low cost, and in large quantities, to exchange for cash to carry on his operations and leave a profit.

Such an agricultural producer must have a tremendous investment in land and its improvements to operate on a large scale, and

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groups of such producers can maintain a very powerful lobby in their behalf wherever such a lobby can do the most good.

Therefore, it can easily turn out that in attempting to help a poor little struggling farmer who is trying to make 15 or 20 bales of cotton, the government subsidy is making millionaires out of larger operators by making the price of cotton cloth too high. It was the same situation that arose when the government was maintaining a fictitious price for potatoes, and the big potato growers got tremendously wealthy at the expense of the general public who had to pay about twice as much for potatoes as they were worth.

These big cotton farms, just like big manufacturing plants, lend themselves to the use of machinery. The little cotton farmer can not afford to buy a cotton picking machine which costs more than his whole farm is worth. He has generally already mortgaged himself to buy an automobile and other things that he can not afford, and mechanized farm equipment is far beyond his reach. He continues therefore to farm in the old inefficient manner, and the government tries to prop the price of cotton up high enough to keep him from being an utter pauper.

Any remedies for this situation are in the realm of politics, and beyond the province of this magazine, but we do think that some of the things that are causing our problems ought to be discussed.

The mechanization of cotton planting and harvesting should logically bring the price down, and some interesting studies aimed at trying to offer a reasonable estimate as to what reductions in the cotton costs might mean, have been made. These studies seem to indicate that an increase in cotton use in this country of around a million bales a year could easily be expected if cotton could be sold at a fair price to the efficient producer, instead of being sold at a price intended to keep the inefficient producer from starving.

The artificial price of cotton maintained by our government has resulted in tremendous increases in cotton acreage all over the world. The Canadian mills, which formerly used almost nothing but American cotton, are now using mostly Mexican cotton. Cuban mills which previously got their cotton from the United States are now buying it from Mexico. Mills all over Europe are doing the same thing.

The Mexican and Brazilian cotton will sell for about five cents a pound less than ours, and very likely would still sell for five cents a pound less if we cut our price five cents, because many of these foreign cottons can be produced so much cheaper than we can produce cotton with our high labor costs that the foreign growers would still undercut on price.

A reduction in cotton price would, however, almost certainly result in an increase in cotton consumption all over the world, and perhaps our cotton raisers could sell their cotton to a real buyer instead of to the United States Government, which is more or less of an artificial buyer. The government has upon several occasions dumped millions of bales of its unwanted surplus, and disturbed the whole world cotton situation by doing this.

In order to help the cotton farmer, the federal government becomes a customer for any cotton the grower can not dispose of to his own satisfaction. This has had some peculiar results. For one thing, the spinner no longer has any reasonable control over the quality of his cotton. If a spinner's cotton classer looks at a group of bales and decides that the cotton is not desirable, and other cotton classers reach the same conclusion, the cotton grower is unperturbed. He simply sells this cotton to the United States Government.

It must be remembered that the farmer has not the slightest interest in whether we can spin his cotton or not. He is solely interested in selling the cotton at the highest price he can get.

The farmer is the ginner's customer, and the ginner cares a great deal about the farmer's opinion of what kind of sample his gin can turn out, but the ginner has no interest, either, in whether the spinner can use the cotton or not, because the Dear Old Government stands there ready to take it over if no spinner wants it.

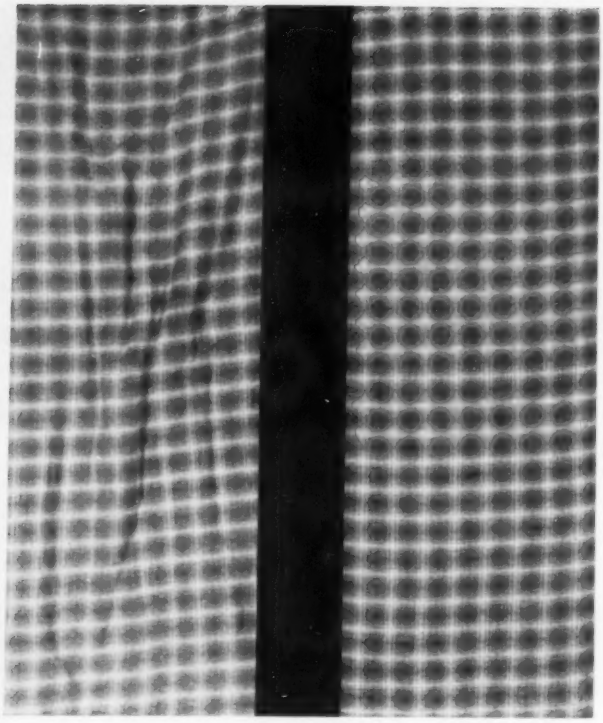
The Department of Agriculture was organized to look out for the best interests of the farmer. Any interest that the Department of Agriculture feels in the spinner is a detached and secondary interest. The first and last concern of the Department of Agriculture is the farmer. Perhaps the Department of Agriculture does not always exercise a nice discrimination in determining the long-term welfare of the farmer as a class, in distinction to the short-term welfare of the farmer as an individual who wants his while the getting is good. A high price is a short-term gain for the farmer; and farmers, like every other kind of people, are all for the immediate dollar.

For over 100 years cotton has been graded on the basis of the visible trash it contained; and so long as all cotton was picked by hand and ginned in practically the same kind of gin, this method of grading was probably fair enough. It is certainly not fair today, when cotton gins are equipped with machines which will grind up the foreign matter so finely that it does not appear as visible trash in a sample, although it very definitely appears as visible trash in yarn.

This brings about a very unhappy situation. The government cotton classer, whose word is more or less law in matters of grade and staple, can fairly drool over a sample of cotton which is not fit to spin. To the cotton classer it looks wonderful, but to the yarn buyer it looks awful.

There is only one possible economic reason for raising cotton in quantities, and that is to make yarn out of it. When cotton is raised solely because the cotton grower needs the money and the government will furnish it to him in exchange for cotton it doesn't want, we have a political reason for growing cotton and not an economic reason. This business of putting the government between the cotton grower and ginner, and the spinner, has made it virtually impossible for the spinner to have any say about what kind of cotton he is going to get.

(To be continued in a subsequent issue.)



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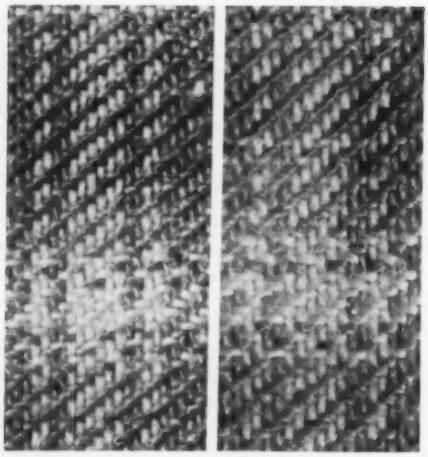

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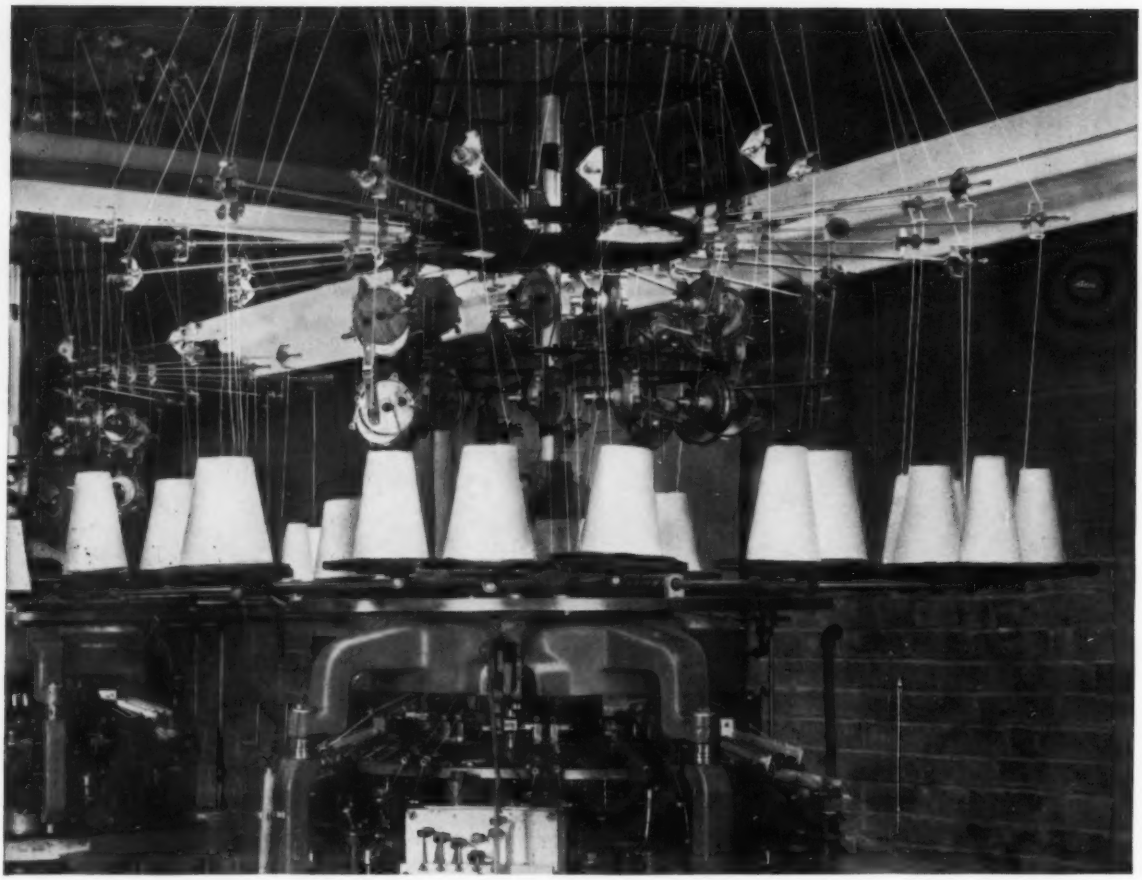


Yarn Tension: How it's controlled at the Havsy Knitted Sportswear Corp.!

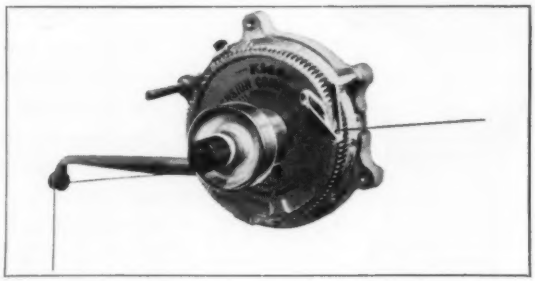
Tension problems, long the stumbling-block of the knitting industry, have met their match at the Havsy Knitted Sportswear Corporation!

The Havsy Corporation of Brooklyn, New York, manufacturers of sweaters of textured nylon yarn, recently installed Kidde Standard Compensators on their 12-feed, 16-cut T.A.I. Jacquard knitting machines. Since that time, Mr. Lawrence Havsy, owner of the company, reports the following improvements:

1. *Elimination of Barre effect due to uneven tension.*
2. *Elimination of frequent stitch cam adjustment.*
3. *Reduced "down-time" caused by frequent stitch cam adjustment.*

Mr. Havsy also reports that Kidde compensators completely overcome the tension problems inherent to production with textured nylon yarn and facilitate the knitting of quality garments.

Kidde's three tension compensators are used by more than 500 of the nation's leading textile mills to help them turn out a better product at less cost. You can do the same. For more information, write Kidde today!



Kidde Standard Compensator

Available in three tensions: 2 to 50 grams, 10 to 120 grams and 50 to 300 grams.

Kidde *The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.*

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Included in this month's Knitting Section are the ten exclusive feature articles listed below. Prepared especially for knitting mill management and operating executives, they contain many ideas for improving quality, increasing production, saving labor, and cutting costs. See also "How Other Men Manage" (pages 195-207) and "New Equipment Parade" (pages 209-224).

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Low Full-Fashioned Machine Fixing Cost Termed Key to Profits in Small Plants

STAFF INTERVIEW

EXCLUSIVE

LOW full-fashioned hosiery machine fixing cost is the key to profitable operations in small and medium size hosiery mills, according to one mill owner who has weathered the storms of fluctuating prices and competition. (This spokesman considers mills having four to sixteen 32-section machines within the small and medium-size mill bracket.)

In analyzing why a lot of mills have gone out of business or liquidated, it appears that most of them bought machinery without thinking in terms of optimum balance with regard to operating costs, this official said.

Balance Needed. For instance, if a mill has only 60 Wildman single-unit, single-section machines, it is out of balance in terms of economical operation because fixing cost per dozen produced is too much.

Assume that this mill with 60 machines is operating three shifts daily and producing 350-400 dozens weekly. One fixer would be required for each shift or a total of three men at a cost of $240 per week or more. Consequently, the fixing cost would amount to about 65 cents per dozen—a prohibitive figure in today's highly competitive market.

On the other hand, suppose that this same mill had 120 single-unit, single-section machines. Mill experience has shown that with knitters of average skill one man can efficiently maintain 120 of these knitting machines; so one fixer per shift or three men for three shifts would still be adequate and, at the same time, cut fixing costs in half to about 35 cents per dozen produced.

SINGLE-UNIT, SINGLE-SECTION MACHINES serve to illustrate critical aspects of fixing costs. Principles also apply to long section machines.

Single-unit, single-section machines serve best to illustrate the balance requirements in terms of fixing loads and costs. When long section machines are being considered, the number of machines per fixer bear little relation to single-section machine loads, although the same principles would apply.

Of course, there are exceptions to the rules. Starting with a given amount of space in a mill, and assuming assured sale of all goods produced, the primary consideration should be: How many machines can one man efficiently fix and maintain in good condition?

Back Breakers. If a building accommodates only 12 machines, and if 10 machines are the maximum number one man can fix, then the two machines remaining are the back breakers, because another man must be hired to take care of them; whereas, 20 machines could be operated at the same fixing cost as 12 machines.

In one mill, 80 single-unit, single-section machines were in operation, and 60 additional machines were purchased. One man comfortably fixed the 80 machines on two shifts. Production was approximately 400 dozens per week. The fixer received $80 per week; therefore, fixing cost was 20 cents

per dozen. The additional 60 machines made total production amount to about 700 dozen pairs per week, and added fixing cost was approximately 27 cents per dozen on extra production. This made an increase in over-all cost of approximately 3½ cents per dozen on total production.

The equation is primarily applicable to marginal profit mills or "fringe" operations and to mills accustomed to operating without knowing actual costs. The principle may be applied to other types of machines or production. Anyone planning expansion should first carefully analyze added costs.

If additional machines can be put in existing building space, heat and rent remain constant cost items. With increased production, these items decrease in terms of unit cost.

Knitting costs do not fluctuate the way fixing costs do, because one must pay the current rate per dozen produced by each knitter (incentive system usually); therefore, fixing cost remains the critical item, and it must be figured carefully from the start.

Times Change. Another instance serves to illustrate the profits picture clearly. In times when profits were (for example) 50 cents per dozen and a mill produced 500 dozens per week, it paid to increase production despite lowering the profit to say 40 cents per dozen.

Obviously, there is more over-all profit in selling 1000 dozens at 40 cents margin per dozen than there is in selling 500 dozens at 50 cents margin per dozen. However, when sale of total production is not assured, losses can be devastating as production declines to keep pace with the market, declared this mill owner.

Some Quality Control Methods Used in a Modern Outerwear Fabrics Plant

STAFF PREPARED

EXCLUSIVE

THE JEFFERSON, S. C., plant of Carolina Corporation is, according to officials of the mill, the largest tubular knit goods plant in the South which is producing for independent cutters. There are approximately 200 tubular knitting machines in the new 150′ x 150′ knitting building producing patterns ranging from stripes through tuck bar; also, terry cloth, lace patterns, and other novelties are made, including the range from crepe stitch to plain jersey.

Not a pound of goods is made in this plant until a firm order is received. In other words, no fabrics are carried "in stock," and schedules indicate that the present rate of shipment is from 100,000 to 125,000 pounds weekly.

The latest type fully automatic Supreme, Brinton, and Wildman machines are utilized in the knitting division which is organized as three departments: (1) Ribbers; (2) MJ jersey; and (3) Automatic stripe. In charge of each is a superintendent who is a specialist on the type of goods made in his particular department.

One designer creates all patterns. It is the policy at the mill to withhold one customer's patterns from other customers for the first year of production. In other words, one customer's patterns are not shown to another customer within one year of their introduction.

Preventive Maintenance. All moving parts of the knitting machines, except the knitting elements, are lubricated once during each shift with a 30 weight machine or engine oil of the straight mineral type. Motors with grease-lubricated bearings are lubricated every six months.

Every time a roll of cloth is taken off the knitting machines, the knitting elements are thoroughly lubricated with a stainless needle oil. Under normal use, a set of needles lasts at least one year and sometimes two in this plant.

Cloth Inspection. Every roll of cloth is inspected immediately after it is removed from the knitting machine and before weighing; also, goods are examined while on the machine.

When the inspector finds defective cloth, she immediately notifies the department superintendent so that corrective measures may be quickly put into effect. This system facilitates pin-pointing the source of the defective goods; also, if damage occurs after the cloth leaves the knitting machine, the responsibility may be easily fixed.

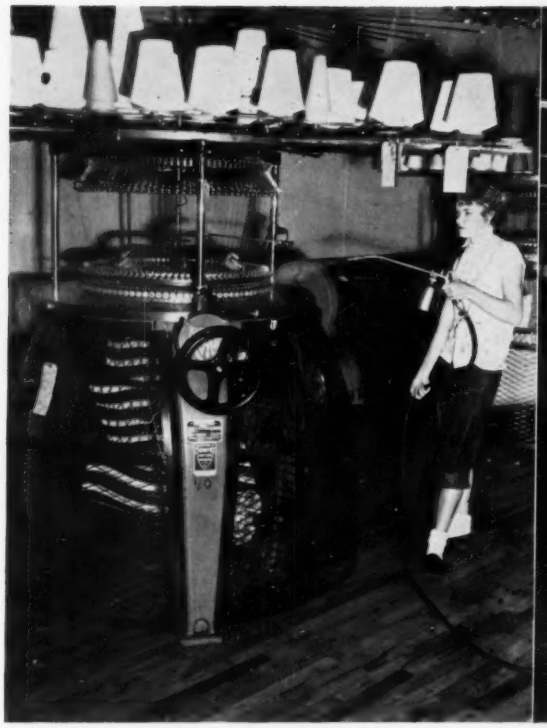
Yarns Identified. The range of yarns used at this plant extends from 30s to 16s cotton counts. All cotton yarns, synthetic yarns, and blends are utilized. At the time this article was prepared, there were over 120 different shades of dyed yarns in stock.

A system of yarn identification has proved very effective in preventing mixed yarn on the machines, as well as in checking on performance of yarns from different sources. Yarns retain their identity as to source all the way through the mill.

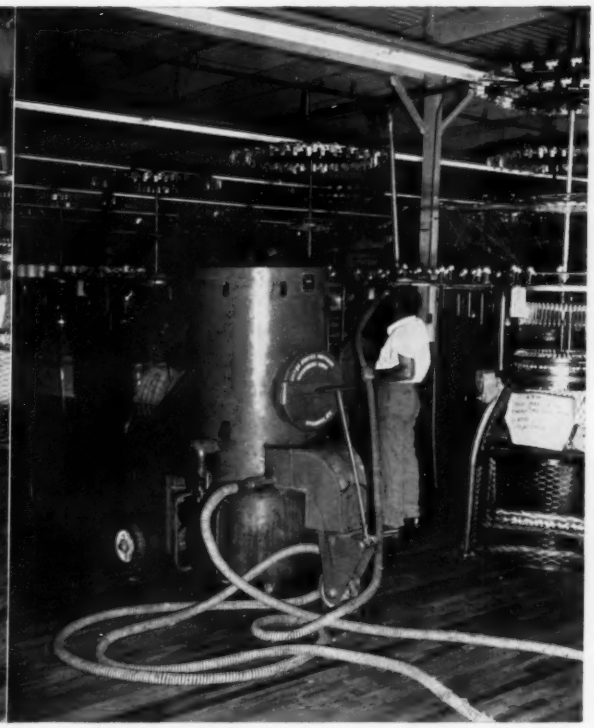
Each lot of yarn received at the mill is kept segregated in storage; also, fastened to each machine is a big placard indicating yarn nomenclature and other data (see illustration). Then, too, a hang tag affixed to each machine contains the same information. Finally, the fabric is tagged with the data.

These measures prevent mixing of yarns and resultant faulty fabrics and difficulties in dyeing and finishing. Seconds are maintained at a level less than 1½ per cent, including changeovers.

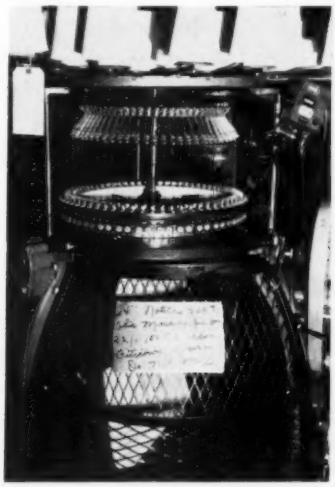
Cleaning. Cleanliness is considered of primary importance. Once



KNITTING ELEMENTS ARE SPRAYED with stainless needle oil after every roll of cloth is removed from machines.



VACUUM CLEANING keeps knitting areas lint- and dust-free. Seconds are maintained at level below 1½%, over-all.



EACH MAKER'S YARN retains its identity throughout the mill. Good identification prevents mixed yarn and resultant difficulties in processing.

EVERY ROLL IS INSPECTED immediately upon removal from the knitting machines. Thus, corrective action can be initiated before defects become serious.

each week a thorough vacuum cleaning of walls, ceilings, and fixtures helps keep machines free of lint and dust, thereby preventing slubs and other lint accumulations from getting into the goods.

Good housekeeping is stressed throughout the plant, and during each shift one person works full time sweeping and doing other house cleaning tasks.

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December 8, 1955

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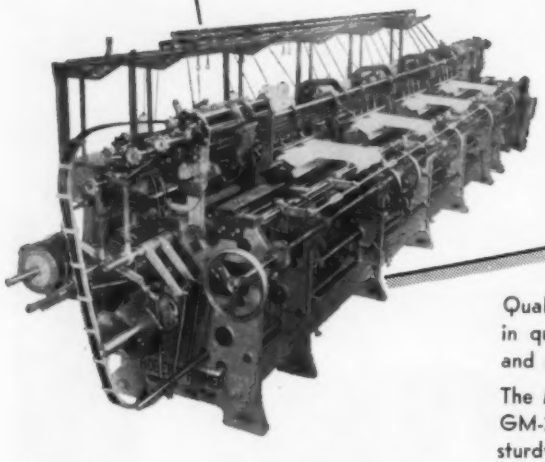
Your three Reiners (a total of 12 heads) produce easily 200 dozen every week (120 hours). They perform excellently and the fact that they are short units permits the knitter to watch each head without difficulty, thus easily spotting length variations or knitting imperfections, if and when they develop - which is very infrequent.

If we add equipment - it will surely be Reiners again.

Mr. Mill Owner:

We shall be glad to give you the name and address of the mill which wrote us the above unsolicited letter. Fair enough?



REMEMBER—

Quality begins with your machines — and Reiner equipment is tops in quality and production. You owe it to yourself to investigate and compare.

The *New* Reiner high speed full fashioned sweater machine, Model GM-2, is now offered with additional features — fully automatic — sturdy — versatile — all gauges — knitting with 28" and 32".

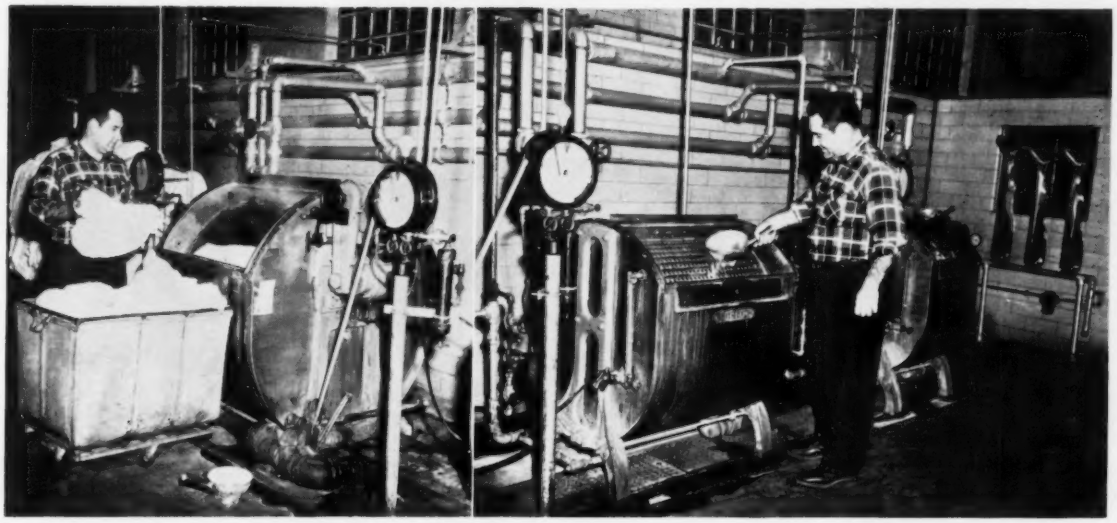
Order today — insure early delivery

ROBERT REINER INCORPORATED

10 MINUTES FROM TIMES SQUARE

Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903 — 550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY



LOADING A DYE MACHINE at Belvedere with ladies' seamless nylon hosiery. An entire dye batch for a large dye machine consists of 216 dozen pairs.

CLEAN DYE MACHINES when changing from one color to another and also after dyeing three batches the same color. This is the practice at Belvedere.

Uniform Dye Batches Assure Minimum Shade Variation on Ladies' Nylons

STAFF PREPARED

EXCLUSIVE

A POSITIVE procedure to stay on shade in dyeing ladies' nylon hosiery (both seamless and full-fashioned) has been determined at Belvedere Hosiery Co., in Charlotte, N. C.

In this mill, identically the same size batch of hosiery is dyed each time as nearly as is practicable in accordance with dye machine capacity. The procedures followed have resulted in keeping redyes to less than 1% of dyehouse production.

According to officials at Belvedere, it pays to have dye orders specify the same number of stockings each time. A difference in dye shade may be effected by a detail such as a variation of sizes dyed in different batches containing the same number of dozens.

Orders for dye runs are made by the mill superintendent only. In exceptional instances where a large order is necessary for small sizes (such as 8½, 9, and 9½), the weight difference between a batch of these sizes compared to a normal batch assortment is noted, and the dye batch is adjusted to compensate for the difference.

Dye lots consisting of larger sizes (such as 10, 10½, and 11) may require as much as 3 per cent more color for a given shade than smaller sizes.

DYE RUN № 472

Dozens	Denier	Color
216		W

8½	9	9½	10	10½	11	
18	36	54	54	36	18	

Style 6015

Signature BDH | Signature

Date 12-1-55 | Date

REMARKS:

TYPICAL ORDER for dye run on large dye machine. Only the superintendent issues dye orders.

Large sizes are usually dyed in lots including 54 dozen size 10, 36 dozen size 10½, and 18 dozen size 11. A normal size assortment in one dye batch also includes 54 dozen size 9½, 36 dozen size 9, and 18 dozen size 8½.

An entire dye batch consists of 216 dozens for a large dye machine. 216 dozen pairs weigh about 70-72 pounds. There are about three dozen 15 denier, 51 gauge stockings to each pound.

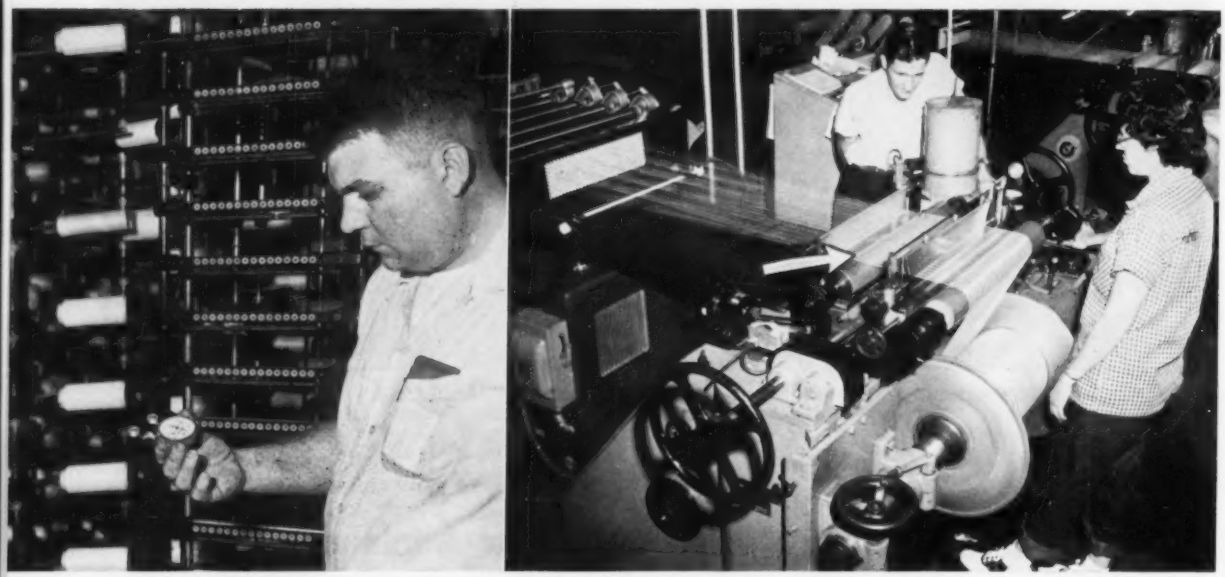
At Belvedere a 50-pound dye machine is normally loaded with 108 dozen pairs in each dye batch; the 25-pound machine with 54 dozen pairs.

Within 5 per cent of shade is not detectable by the average person and is usually considered good uniformity of shade, using a Macbeth daylight examiner for comparison.

Clean Machines. To avoid contamination, dye machines are thoroughly flushed and boiled between batches of different colors.

Three batches of the same shade

can be run without adverse effect on the hosiery; therefore, boiling and flushing are done after three batches of the same shade are processed. Dye nets are stripped, and dye machines boiled and flushed every Saturday morning, regardless of other operating schedules.



CHECKING TENSION on yarns at warper creel **(left photo).** Careful control of tensions is the rule at Dover. **Right photo:** Applicator roll (arrow) on warper puts 1½ per cent of antistatic lubricant on yarn.

A B C's of Tricot Knitting Emphasized at Dover Mills

STAFF PREPARED

EXCLUSIVE

EXPERIENCE of the Tricot Division of Dover Mills Co., Shelby, N. C., has been that the essentials for an efficient tricot knitting operation are: (1) good warping; (2) maintenance of knitting machines in good condition; and (3) close supervision of trained, conscientious personnel.

Warping. In warping nylon yarns, this mill starts with thrown yarns having 5½ tpi. These yarns are treated at the warper with 1½ per cent of antistatic lubricant, applied by an applicator roll (see illustration). Other synthetic yarns used here are not thrown and are warped directly from the yarn carriers on which they are wound by the fiber producer.

Cleanliness is considered essential in warping. At Dover the warpers are thoroughly cleaned once every 10 days when processing nylon and once every three days when on acetate. Pyrene or carbon tetrachloride is used to clean creels, discs, posts, and eyes. Beams are cleaned as they are put on the warper. Johnson's paste wax is applied to clean and wax the aluminum beams every time they are used.

Tensions are carefully controlled to a uniform level in accordance with the type of fabric being made. This mill runs 15 denier yarn with 2½ to 3½ grams tension; 40 denier with 4 to 5 grams tension; and 55 denier without any added tension because this yarn has enough natural tension (which should not exceed about 3½ grams).

Operatives are instructed to be certain that yarn accumulators on warpers are properly used, in case of end breakage, to assure 100 per cent unbroken ends on finished beams.

Maintenance. Maintenance in this progressive mill begins with preventive measures, primarily dependent upon good lubrication. Bijur automatic lubrication systems are in operation on all tricot machines here. These units are checked daily to determine the level of lubricant in the reservoirs which are also refilled on this schedule.

A "utility" man devotes full time to such details as oiling, cleaning, and getting warps ready and available for the machines.

Guide bar slides are lubricated manually with white petroleum jelly every 10 days by the utility man. Pattern wheel cases are drained and refilled once a year with a 30 weight oil. Bearings equipped with pressure fittings are greased at warp out (about every

Most widely used RASCHEL MACHINE in the world: the KIDDE KNITTER

100" knitting width, or wider if desired. Can be equipped with from 2 to 6 or more guide bars. Range of gauges for all Raschel fabrics. Available with 14" or 21" diameter sectional spools or with beam flanges for full width warping. Choice of pattern wheels or pattern drum and chain links.

How fast should you run a Raschel machine on 4-bar elastic fabric?

Experienced knitting department supervisors know that *you cannot measure a Raschel machine's output by the minute.* Instead, the wise knitter thinks in terms of pounds of first-quality fabric produced per shift, per week, or per month.

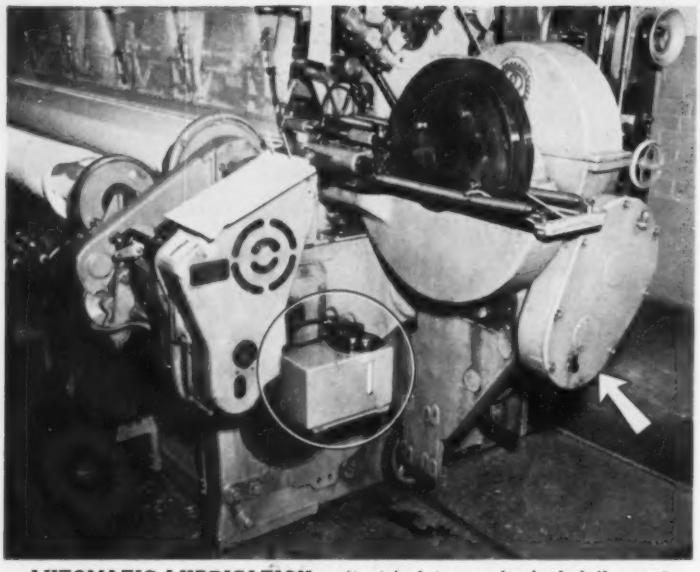
This kind of intelligent evaluation of production rates has made the KIDDE Knitter the world's most widely used Raschel type warp knitting machine. For the KIDDE Knitter backs up high "per minute" speeds with reliability that maintains these speeds over long periods with next-to-no down time for repairs . . . keeps defects well below the acceptable limit for first-grade fabric. It's a versatile machine, too. No matter what kind of Raschel-knit fabric you produce, you'll find that the Model E KIDDE Knitter will do the job. For complete information, write us today.

TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS
BEAMERS • CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS

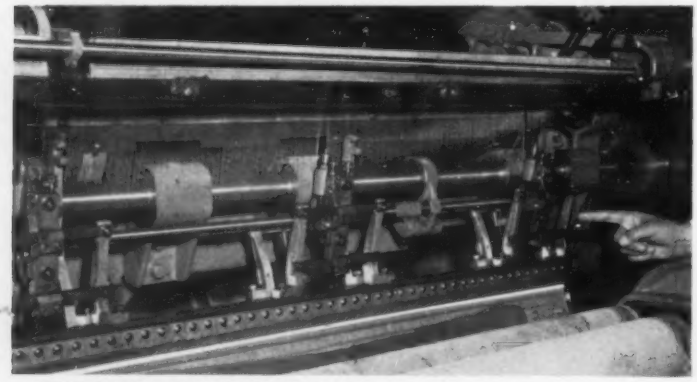
Kidde

MANUFACTURING CO., INC. — 42 FARRAND STREET — BLOOMFIELD, NEW JERSEY

The word KIDDE is the trade mark of Walter Kidde & Company, Inc., and its affiliated companies.



AUTOMATIC LUBRICATION units (circle) are checked daily, and reservoirs are refilled on this schedule. Pattern wheel cases (arrow) are drained and refilled once a year.



GUIDE BAR SLIDES (indicated by operative's finger at extreme right) are lubricated manually with white petroleum jelly every 10 days by the utility man.

SUPERVISORS CHECK to see that the job is done effectively and satisfactorily. Responsibility is delegated to the employees.

12 days).

Supervision and Personnel. Management has over a period of years selected personnel suited for the various jobs in the plant. Usually, men are hired in semi-skilled categories and are trained and promoted from this level. Employees are all local people from within the county.

During indoctrination, all supervisory personnel are admonished to practice good moral leadership and to instruct and adequately inform each operative regarding what is expected of him. Also, the supervisors follow up to see that the job is done effectively and satisfactorily. Responsibility is delegated to the employees.

Supervisors also check on machine operation to ascertain that a good level of production and quality are maintained. The superintendent and overseers have weekly meetings to discuss operations and activities. The overseer of each plant and department has a weekly meeting with his personnel to discuss problems and procedures.

The overseer of knitting carefully observes operatives, notes performance level, and inspects cloth as well as machine operation. This man spot checks cloth after the cloth grader has finished with it, and any irregularities of consequence are reported to the superintendent so corrective action can be initiated before they become serious.

According to R. E. Duvall, superintendent of the tricot division, good tricot knitting should start with the correct setting of the machine on ratio per rack basis. The correct proportion of yarn must be delivered to the knitting head from both top and bottom beams at each movement of the automatic letoff by setting this mechanism according to the fabric being produced. (For example, a 7½" quality fabric should get 34 inches of yarn fed from the beams for each 7½ inches of fabric knitted.)

Usually, the top beam makes the base of the fabric, and the bottom beam makes the face of the cloth (as on many jersey fabrics); and the automatic letoff scale should

be adjusted to obtain a tight or slack stitch in accordance with the yarn and type of fabric being produced.

Dover Mills Company uses 28 gauge Reiner tricot machines equipped with automatic letoff and mechanical brakes. Synthetic yarns used range from 15 denier to 150 denier, and include nylon, acetate, viscose, Orlon, and Dacron. This company pioneered the development of tricot plaids for lingerie, according to a mill official.

Tips For Making Cotton-Nylon Stretch Argyles

STAFF PREPARED

EXCLUSIVE

MANY hosiery mills are now using combination cotton - nylon stretch type yarns in men's socks. Some of these novel yarns may contribute to difficulties in looping.

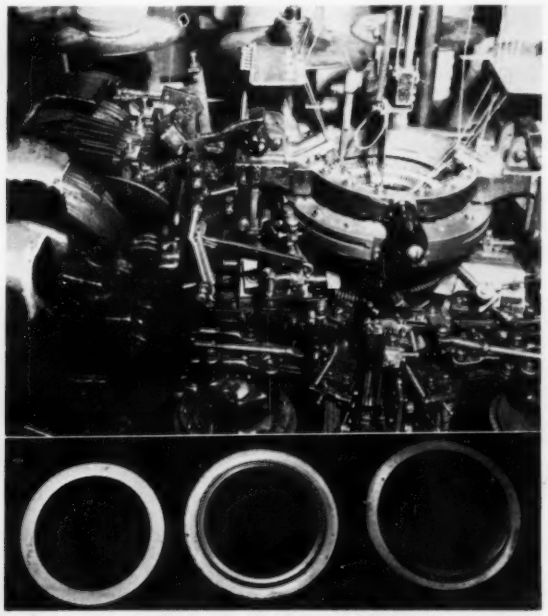
One mill had a large quantity of goods graded seconds and thirds because the loopers cut the goods at the looper line as a result of the socks curling at this point—the nylon drew up and let the looper cut the yarn at the line. This defect, which often was the cause of as much as 20 per cent seconds and thirds, was remedied in the following manner:

Four courses before the looper line is made, one strand of 16/1 cotton yarn is inserted in addition to the regular 540 denier cotton-nylon yarn currently being used on the SCP circular knitting machines. This produces a much better defined and easier-to-see looper line and eliminates cutting at the looper.

The added cotton yarn holds the looper line open by imparting more bulk or body to the goods at this point. This gives the fabric additional stability, prevents curling at the looper, and presents a fabric of better appearance at the looper line. The cotton is laid in on top of the regular cotton-nylon combination yarn. In this mill, addition of the 16/1 cotton yarn reduced seconds and thirds (classified as poor looping resulting from cut looper line) to about 1%.

Sinker Holder Rings. A modified sinker holder ring installed on SCP machines at this plant also helped cut sinker breakage 75% (see accompanying illustration) by preventing excessive friction wear and hang-ups. The new sinker holder rings are made of cold rolled steel with slight modifications as compared to the original (as shown in the illustrations).

HOW TO AVOID CUTTING GOODS at looper line: Four courses before the looper line is formed, insert one strand of 16s/1 cotton in addition to regular 540 denier cotton-nylon yarn.



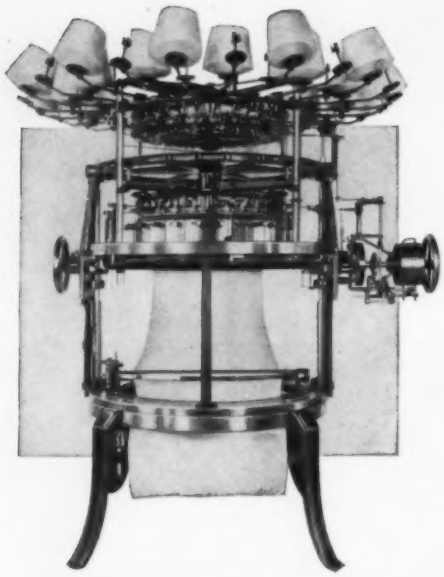
REDUCE SINKER BREAKAGE. Mill-made sinker holder ring cut sinker breakage 75% by preventing excessive wear and hang-ups. In lower photo above are (left to right): original equipment sinker holder ring, mill-made ring of soft metal which soon wore out, and presently used mill-made ring of harder stock.

ORLON "Goes to Town"

when produced on a

WILDMAN

INTERLOCK



Wildman Interlock Machines are completely assembled and adjusted at the factory, and can quickly be set up and running in your mill without calling on erecting mechanics.

Orlon and other synthetics — by themselves or in combination with natural fibers — are knit to look their best on this highly versatile and productive machine. The increasing demand for more and more varieties of knit sweaters, sport shirts, gloves, underwear and dress fabrics will keep your Wildman Interlocking Machines profitably busy for years to come — especially when you compare their output with production and operating costs!

Available in all popular sizes from 10″ to 30″ and furnished in all cuts — 10 to 24 needles per inch. Belt or individual motor drive. Inquire today for complete information.

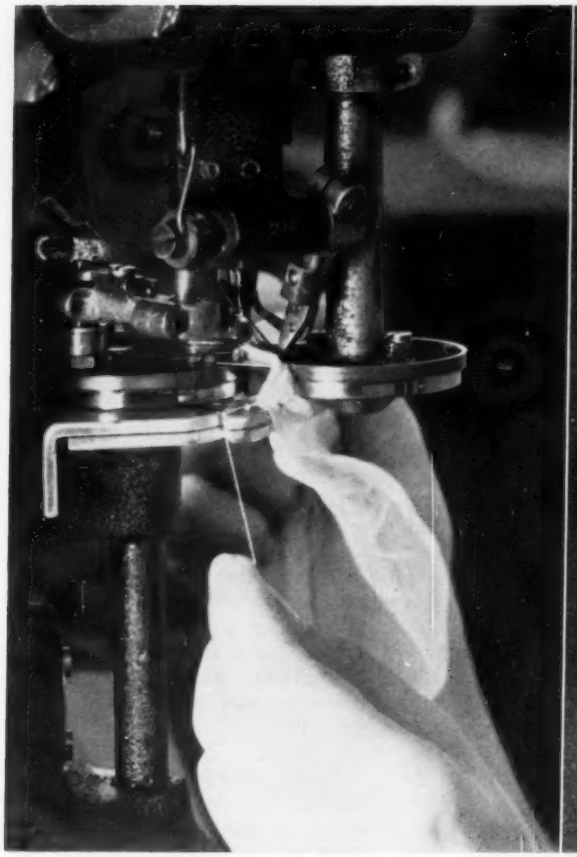
WILDMAN *makes the machines that tend to their own knitting.*

WILDMAN MFG. COMPANY, NORRISTOWN, PA.

Manufacturers of: FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS

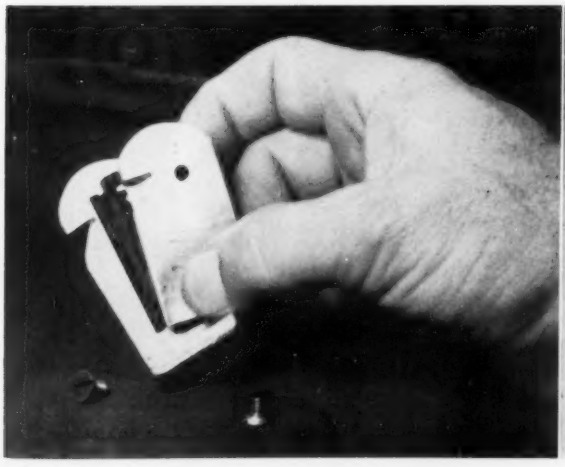
Knitter Hints No. 43

This home-made chain cutter for F-F seaming machines gives excellent service, especially when using nylon.

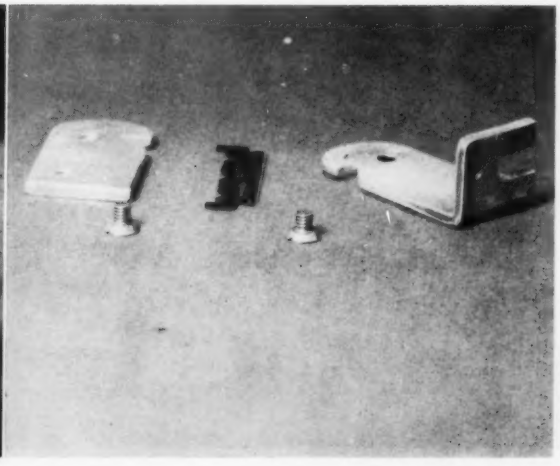


1. Operator starts to cut chain . . . .

2. Chain is severed . . . .



3. Cutter that does the work . . . .



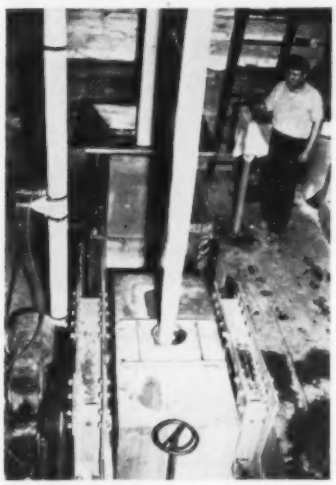
4. It can be easily made, too.

Sequence of Operations at Jefferson Bleachery Saves Time, Labor, and Space

STAFF PREPARED

EXCLUSIVE

WHEN Jefferson (S. C.) Bleachery began operation in July, 1954, the weekly capacity was about 50,000 pounds of tubular knit goods. It was not long before demand for services of this organization necessitated expansion of production facilities, and today the plant can process about 125,000 pounds of goods each week.



WETTING OUT tubular knit goods in saturator before processing in kier. By varying the concentration of the wetting agent, saturation rate of 240 ypm can be maintained regardless of width of goods being wet out.

One building houses floor space measuring 180′ x 60′ and another encloses an area 40′ x 40′. Plans call for doubling the present plant area, according to E. P. Beattie, general manager.

This successful and modern plant dyes, bleaches, and finishes cotton and synthetic tubular knit goods put up in rolls which range in width from 5″ to 37″. Here are some of the interesting features:

Liquor Conserved. Flexible operation is maintained for handling liquids. Special tank accommodations permit pumping liquor out of kiers to replenish liquor components and to build the liquor to necessary strength to get the desired bleach or other results called for in the operation. This procedure saves water, bleach, and/or liquor and components and permits one-man operation instead of two at this phase of processing.

Insulated Kiers. Kiers are loaded by a kier piler, and the sequence of operations throughout processing saves time, floor space, labor, and machine downtime.

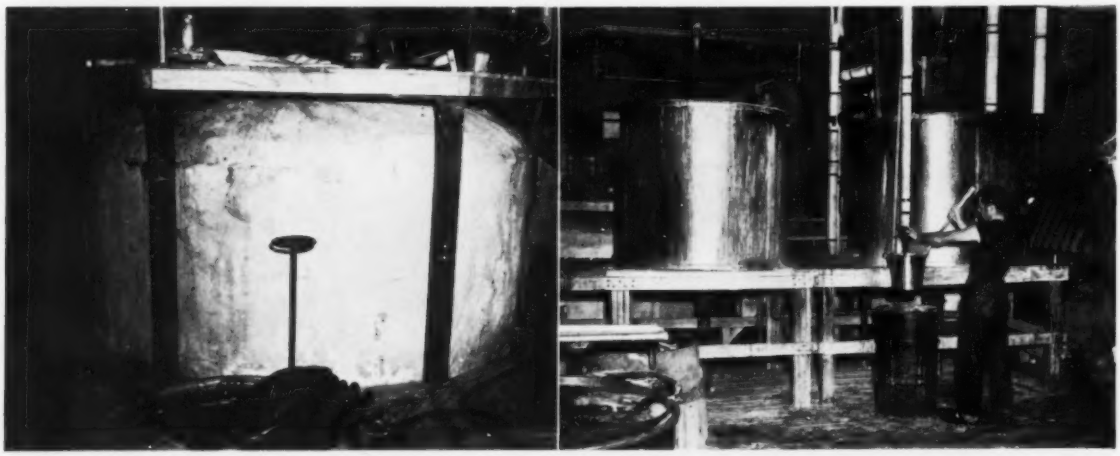
Kiers are insulated with a one-inch-thick asbestos coating which saves a half hour in bringing the temperature inside the kier up to 190 F, although this temperature should be attained at a slow rate for best results. Less steam is required to maintain temperature in the insulated kiers.

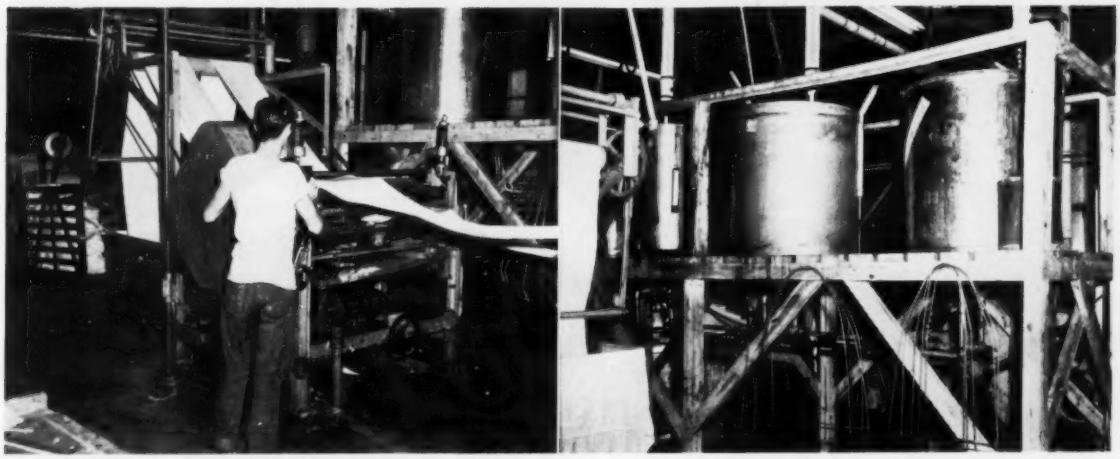
Operation Sequence. Cloth is loaded at the rate of 240 ypm into kiers in 5000-pound lots. The cloth is removed from the kiers at a rate of about 700 ypm for piling in white bins. This permits quick reloading of the kiers.

A saturator wets out goods at 240 ypm before entering the kiers; this applies to goods of any width. Concentration of the wetting solution permits wetting wide or narrow width goods in the same time interval.

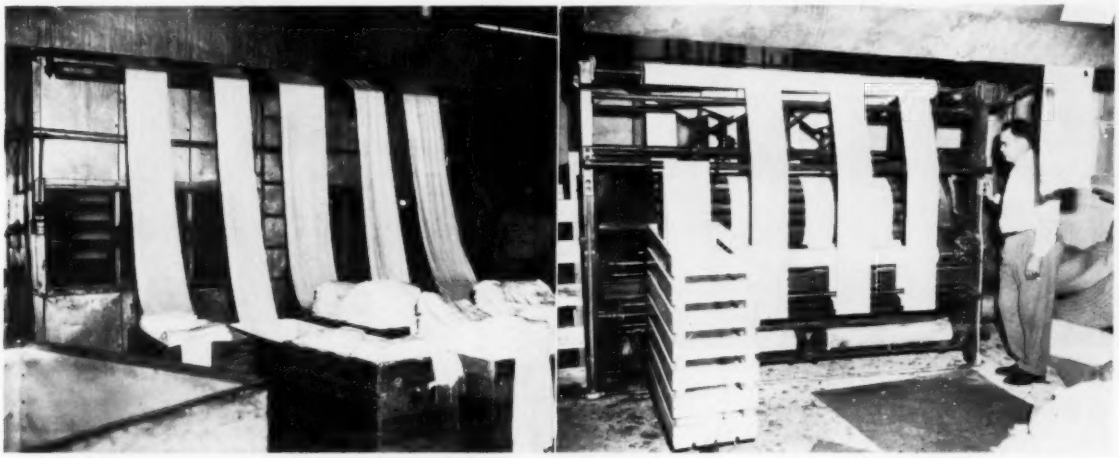
Quick Change at Kiers. Upon leaving kiers, the goods go to white storage bins; then into a slack washer for the last rinse and

KIERS ARE INSULATED with one-inch-thick asbestos coating (**left photo**). Less steam is required to maintain temperature needed inside kier. **Right photo:** Special tank arrangement makes it possible for one man to draw spent liquor from kiers, prepare it for reuse, and return it to the kiers, all with a minimum of waste.





STABILIZATION BEGINS. Goods are brought from slack washer to this "Tube-Tex" machine **(left photo)** for processing—the first step in stabilizing the fabric. **Right photo:** Quick changeover from one operation to another is possible with this three-tank arrangement, one for white mix, one for dye mix, and another for nap mix or other liquids as required.



UNIFORM DRYING of tubular fabric is assured by use of this loop dryer **(left photo)** in which the poles supporting the cloth turn continuously. Dryer can accommodate light goods on one side, heavy on the other. **Right photo:** Double-acting napper built especially for processing tubular knit fabrics; the necessity for running goods through the napper twice is eliminated.

softener; then the goods are returned to white storage bins. This permits unloading and reloading kiers in much less time than that required to operate by transferring goods from kier to slack washer.

Upon leaving the slack washer, goods are ready for "Tube-Tex" treatment which is first step in stabilizing the fabric.

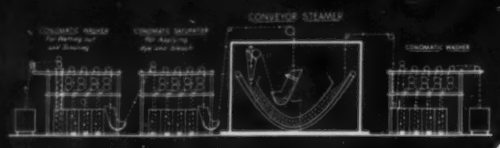
Next, the cloth is run through a loop dryer equipped with revolving poles which keep the fabrics moving for uniform drying. This dryer can simultaneously accommodate light cloth on one side and heavy cloth on other side. Special controls permit a different level of heat in each zone. Dryer capacity is over 200,000 pounds per week.

After drying, the cloth enters a Tube-Tex calendering machine for stabilization of cloth width; one tensionless and two straightline Tube-Tex calendering machines are used. Cloth is then weighed, wrapped in paper and stenciled and labeled for shipment, and then stored to await shipment.

Dyed Goods. All dyed goods are processed immediately through a Tube-Tex extractor-padder to prevent dye migration. A separate extractor-padder is used on colored and bleached goods to extract and finish to customer specifications. This is done before calendering.

More Tanks. Three separate tanks hold white mix, dye mix, nap mix or other liquids as required to permit change from one operation to another, without loss of time.

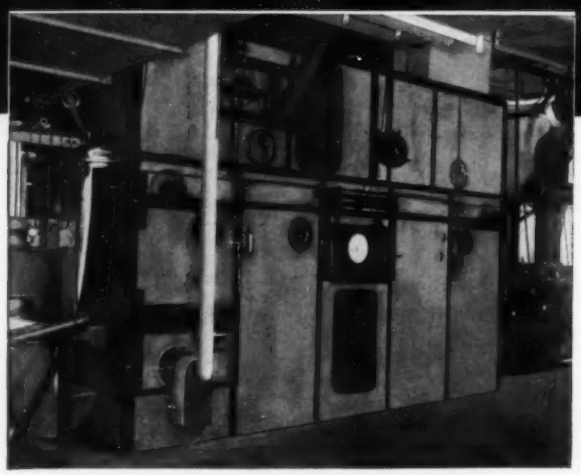
Napping. A special knit goods napper, built to specifications drawn up by Cary C. Boshamer, president of the firm, cuts out one operation in handling the cloth. This double acting napper, manufactured by Davis & Furber Machine Co., cuts napping time in half and does the entire job in one pass of the fabric through the machine. Usually the goods come from the dryer to the napper.



Installation View of Con-o-matic Washer in Continuous Bleach Range.

For improved quality of knit goods and profit making production . . . install a

PROCTOR CONTINUOUS BLEACH RANGE



Installation View of Steamer Unit in Continuous Bleach Range.

This range has been field proven, and is now producing highest quality tubular knits at the P. H. Hanes Knitting Co., in Winston-Salem, N. C. Through the use of a Con-o-matic Saturator, this range is adaptable to be used in applying fluorescent dye, which is one of the latest techniques of the knit goods industry.

Discuss the possibilities of adding a Proctor Con-o-matic washer to your present production set-up. The tapered squeeze rolls (Pat. app. for) assure a continuous trouble-free, tension-free operation.

Proctor engineers will be glad to discuss your knit goods problem with you at your earliest convenience. Why not present your problem to men who can help you.

Proctor

WRITE FOR DETAILS—PROCTOR & SCHWARTZ EQUIPMENT FOR THE TEXTILE FIELD

AUTOMATIC BLENDING SYSTEMS • WEIGHING FEEDS • PICKERS • SHREDDERS • BALE BREAKERS • SYNTHETIC CARDS • GARNETTS • DRYERS FOR FIBROUS MATERIAL • YARN DRYERS • HOT AIR SLASHER DRYERS • CLOTH CARBONIZERS • ROLLER DRYERS AND CURERS • LOOP AGERS FOR PRINT GOODS • TENTER HOUSINGS • OPEN-WIDTH BLEACH SYSTEMS FOR WOVEN FABRICS • MULTIPASS AIRLAY DRYERS • NYLON SETTING EQUIPMENT • CON-O-MATIC WASHERS • CONTINUOUS BLEACH SYSTEMS FOR PRODUCING TUBULAR KNITS EQUIPMENT FOR "SEDNAMIZED" ® SHRUNK-TO-FIT FABRICS • CARPET DRYERS

PROCTOR & SCHWARTZ, Inc.

Manufacturers of Textile Machinery and Industrial Drying Equipment. Philadelphia 20, Pa.

Making Jacquard Sweater Fabrics

Here's What to Do When Changing Over to Orlon Yarn

CAROLINA Jacquard Knitting Mills, Charlotte, N. C., start production with skein yarn, wind and backwind to assure uniform tension, knit the fabric, and make finished sweaters ready for the market. Special care is exercised in the backwinding operation to assure good results in the knitting process.

STAFF PREPARED
EXCLUSIVE

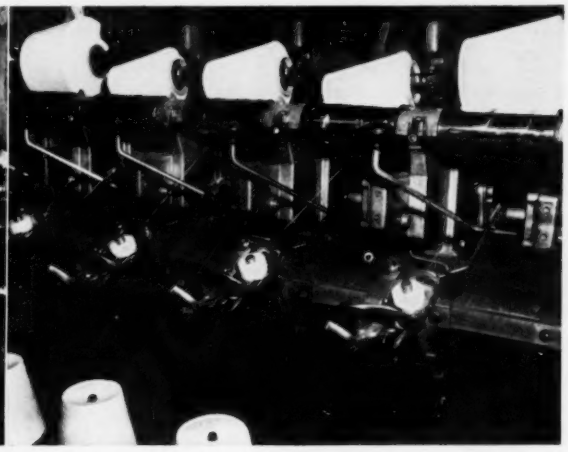
Knits Finished Fabric. Cleanliness and good housekeeping are emphasized to all employees, because the fabrics are in the finished condition as they leave the machines and soiled fabrics cannot be used to make high quality finished sweaters.

The knitting machines are cleaned twice during each shift when processing wool (four times each day). When knitting Orlon,* the machines require cleaning three times during each shift.

Oil Sparingly. Knitters lubricate

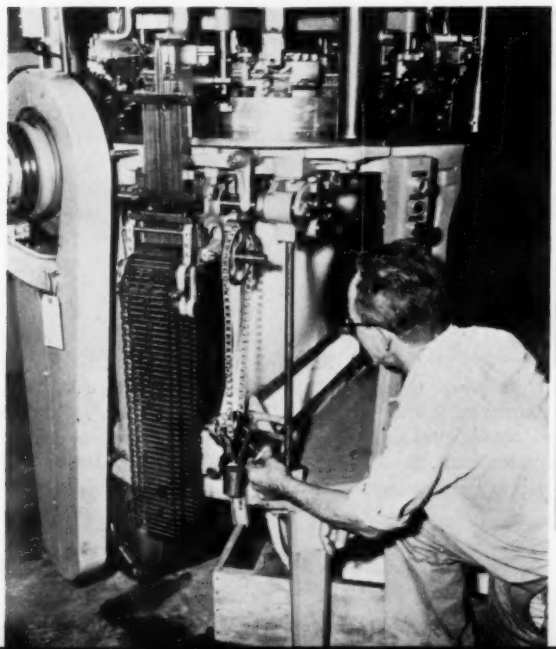
*Du Pont's acrylic fiber.

INTEGRATED MILL starts with skein yarn and backwinds twice to assure uniform tension and subsequent first quality fabric for children's sweaters.

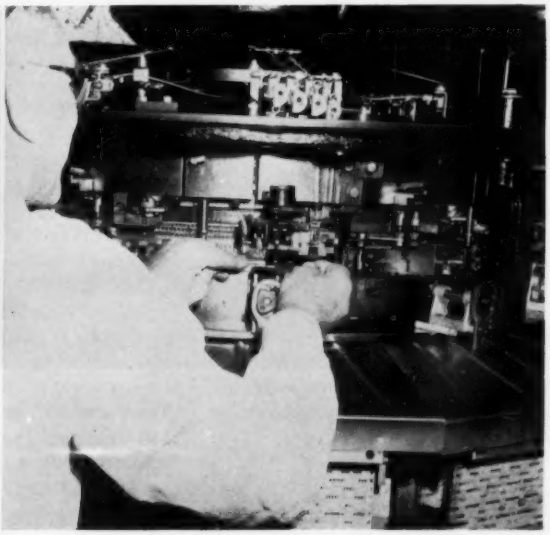


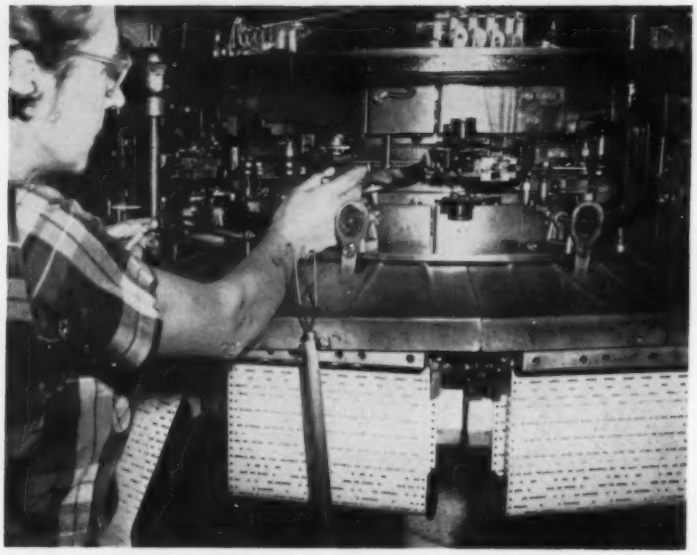
DOUBLE WAXING of Orlon yarn is essential when changing knitting machines over to Orlon. Wax serves as lubricant at knitting needles and aids in forming good stitches.

FABRIC TAKEUP must be set just right by trial and error.



ADJUST STITCH tension to suit the yarn. Use whatever tension is required for best running work.





IF TROUBLE DEVELOPS in running Orlon, last resort is to use brush to apply stainless oil to needles for lubrication. Small quantity of waste fabric is run to get a good start.

machines with stainless oil once each shift, being very careful to put the right amount of oil only where it belongs to prevent surplus oil dropping on the floor or onto other machine parts.

Backwinding. In backwinding, wax is applied to all yarn to assure sufficient lubrication when the yarn reaches the knitting needles.

Faulty yarn is the most common cause of needle breakage in this plant; and needle breakage is a major repair cost item in the knitting department. So this is another reason for special care in backwinding.

Carolina Jacquard uses a Foster skein winder and a Universal Roto Coner for the backwinding operations. Wax is applied at both machines.

Wool and nylon may be run interchangeably on the Jacquard knitting machines; however, when changing to Orlon, it is absolutely necessary that the yarn be well coated with wax. Consequently, at this plant the first batch of Orlon is backwound twice to get more wax on the yarn to lubricate the needles for either changeover or startup on Orlon.

Yarn Changeover. Here are four steps taken at Carolina Jacquard when changing a machine from any yarn to Orlon:

(1) Adjust stitch tension to suit the yarn—set tension wherever it runs best.

(2) Set fabric takeup just right by trial and error.

(3) Double wax yarn to assure adequate lubrication of the yarn upon contact with the knitting needles.

(4) If trouble is experienced, even though the yarn has been double waxed, apply stainless oil to the needles with a small brush and knit a small amount of waste fabric to get the yarn started right and provide enough lubricant on the needles—do this as a last resort only, however.

Apparently the Orlon resists sliding on the needles, something which is necessary in latch needle stitch formation. When the yarn does not slide on the needles, holes appear in the fabric and ripped yarn and needles result.

A full line of sweaters for children ranging in age from 9 months to 14 years is produced at Carolina Jacquard, at a rate of 600 to 700 dozen weekly. All knitting machines are 30″ in diameter, 9 and 13½ gauge; they were manufactured by Jacquard Knitting Machine Co., Inc., and Ordnance Gauge Co.

How to Keep Those

STAFF PREPARED

EXCLUSIVE

BELVEDERE Hosiery Company, Charlotte, N. C., has found that uninterrupted production of ladies' seamless hosiery is most easily maintained by systematic checking and adjustment of the 400-needle circular knitting machines on the production line.

Thin heels (heels containing only leg yarn) are most popular on seamless ladies' nylons, and overall waste at this mill is less than 10% on thin heel work. This figure is considered good for high production operation, because a relatively high percentage of waste is expected on this type of work, according to one mill official.

Once these machines are properly adjusted for high production, relatively little time is required for servicing them to maintain the desired yield. The procedure followed at Belvedere is quite simple:

(1) When changing hosiery sizes, count links in chains to be certain the chains contain the proper number of links (see **Photo 1**).

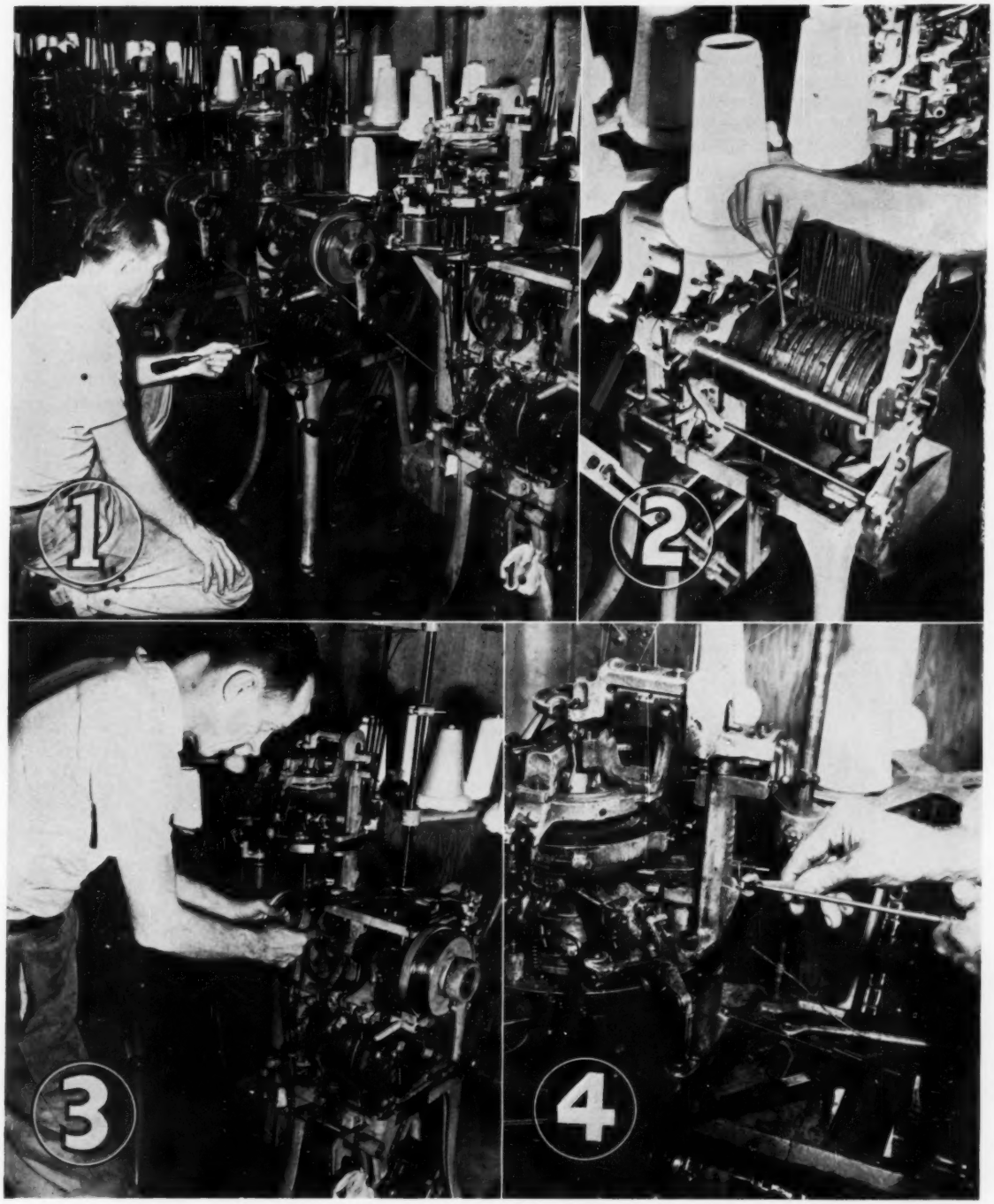
(2) Tighten transfer cams and makeup cams (**Photo 2**) to prevent needle breakage. Check these cams frequently, especially after having needles break while knitting in the welt of the stocking.

(3) Apply a good 10 to 20 weight machine or engine oil of the straight mineral type to all parts (**Photo 3**) except needles, sinkers, and others which come in contact with the yarn. Oil needles and sinkers with a good stainless needle oil at least once each shift (eight hours). Oil all parts situated above the bed plate level at least twice each week with the machine oil previously mentioned.

Needle Breakage. The most common cause of stoppage in this mill is attributed to needle breakage at makeup of welt, transfer, and in knitting heel and toe. The machine stops when needles break; therefore, the trouble is easy to identify before a wreck occurs.

Needle breakage should focus attention on the dividers, and it is usually necessary to adjust the

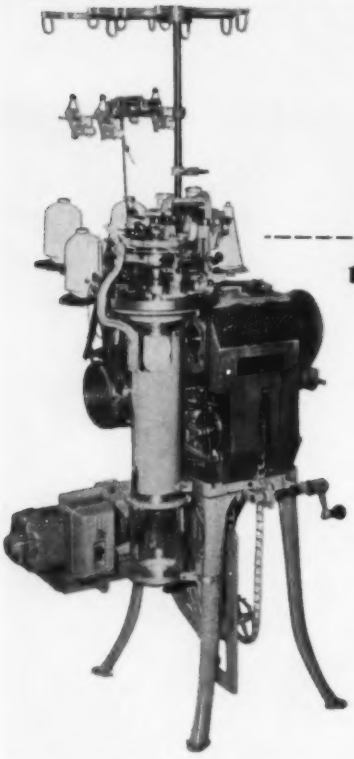
400-Needle Machines Producing



dividers in accordance with the requirements of the knitting pattern.

The dividers must be adjusted to the needles to which they are set. By feel and sight set the dividers (**Photo 4**) with a slight amount of tolerance to prevent any pressure on the needles.

Sometimes a drum may slip out of time and cause needle breakage, but this trouble is unusual.



T. M. C.
T. M. C.
T. M. C.
Ten Minute Cycle!

that's the news that's rocking the trade!

Carolina's Model K2F

The new Carolina Model K2F ladies two feed, 400 needle seamless hose knitter. Consistently knits two dozen pairs stretch or conventional 15 denier hose every eight hours.

Available in 3½" or 3¾" diameter 400 to 500 needle. 75/80 guage equipped with bottom looper line, graduated stitch device, tucking, and electric stop motion. Automatic take-up attachments also available.

Carolina Knitting Machinery Corp.
508 West Fifth Street, Charlotte, N. C.
EDison 4-5546

ON OPPORTUNITY—

Not houses finely roofed or the stone of walls well builded, nay nor canals and dockyards, make the city, but men able to use their opportunity.

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FACTORS

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Triangle Packages Socks for Consumer Appeal

STAFF PREPARED
EXCLUSIVE

MERCHANDISING methods must bear the burden in moving more men's hosiery, and one of these is attractive packaging to induce impulse buying, according to R. O. Haas, vice-president of Triangle Hosiery Company, High Point, N. C.

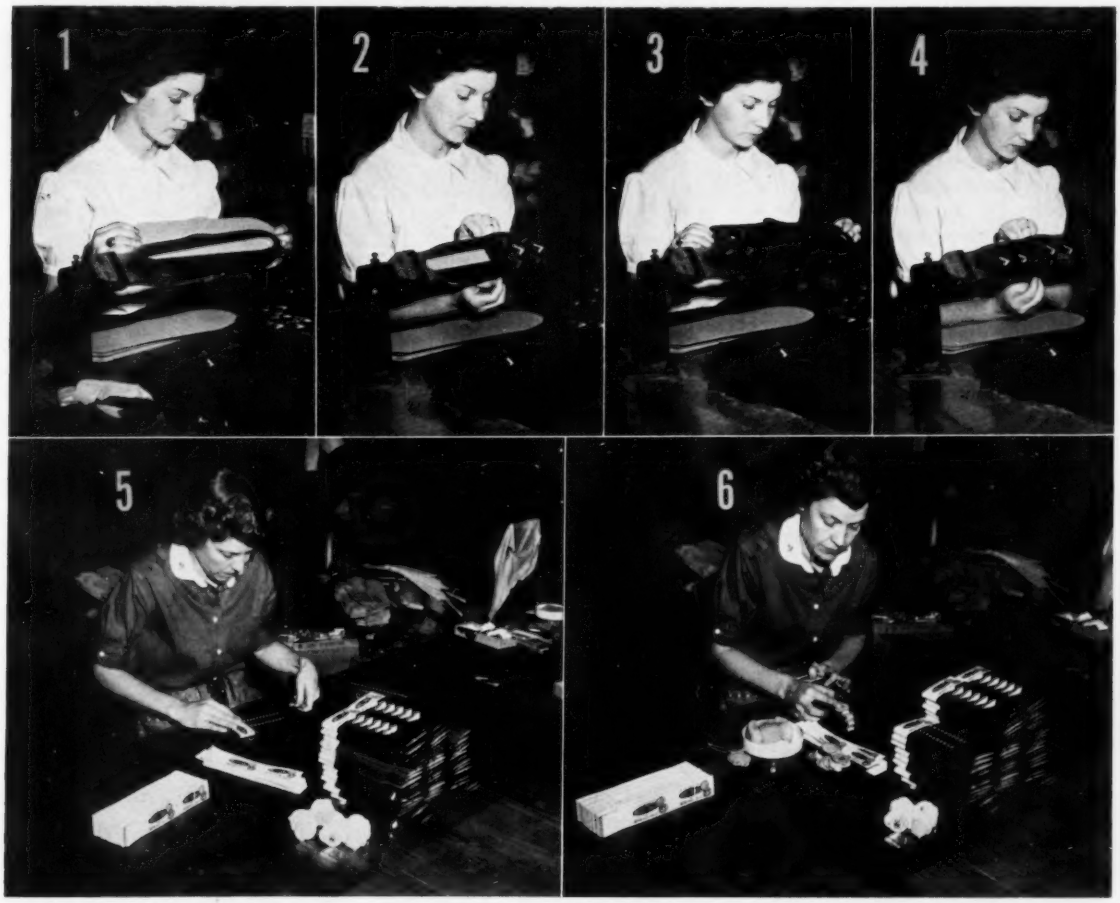
Statistics show that men are buying fewer socks now than formerly. Consumption per capita was 12.4 pairs in 1954, as compared to 12.6 pairs in 1948 (next lowest). A high of 13.9 pairs per capita was evident in 1950.

The decrease in per capita hosiery consumption is attributed to the fact that men don't need as many pairs of socks as formerly because of improvements in wearing qualities.

Program Sells. Triangle's packaging program has produced results which have been encouraging and profitable. For example, in two recent instances the mill sold several thousand dozen more pairs of stretch socks because of good package offerings. Plans are being made for more extensive merchandising by attractive packaging.

This mill is holding its own in sales and is gaining an additional portion of the market from time to time as a direct result of tailoring packages to customers' requirements and by devising new packages to induce new buyers.

Several of Triangle's current



THE "BERRYPAK" METHOD of packaging stretch socks (a pair of socks on one cardboard insert) is accomplished in four operations at Triangle Hosiery Co. where the special form shown here in Photos 1 through 4 is utilized. Here is how they do it:

1. Insert cardboard into slot provided in special form.

2. Pull one sock over the form.

3. Remove cardboard insert with sock on it from the form and then again place the insert and one sock into the slot in the special form.

4. Pull second sock over the form which already contains the cardboard insert and one sock, and then remove insert containing two socks from form.

5. Operative puts band on Berrypak.

6. Operative fixes rider on Berrypak after applying band. Most packaging is done manually, permitting maximum flexibility.

A FEW OF THE PACKAGES made up for customers of Triangle Hosiery Co. are pictured in these photos. From left to right in the **top photo** are: a box containing one dozen pairs of socks of the same pattern with customer's choice of bands and riders; "For Him" package contains three pairs—four of these come in one box; three assorted pairs in polyethylene bags, packed one dozen pairs to the box. In the **center photo,** from left to right, are: three assorted pairs in each box packed four boxes (one dozen pairs) in each carton; one dozen pairs in polyethylene bag; one dozen monogram, three pairs in each box, four boxes in each carton. Photo at **bottom** shows shipping carton which contains five dozen pairs of socks ready for shipment to customer, display rack containing socks as it appears upon removal from carton, and display rack with socks set up and ready for use on counter in store.

packaging operations and packages are shown in the accompanying illustrations.

Manual Operation. Most of the packages in this mill are made up entirely by hand; thus a large number of employees are required for the packaging department. However, this permits maximum flexibility in tailoring packages.

One popular type of package utilizes a hosiery inserter form to make up a "Berrypak" (two stretch socks on a cardboard form as described in TEXTILE INDUSTRIES for March, 1955, page 163). This form does the job economically and was made by Edley Machine Company, of High Point, N. C., (see illustrations on page 191).

Cotton argyles may also be put on these cardboard forms for display purposes (four sizes of boards are required).

Watch Cost. Care must be exercised to keep packaging costs low enough for the price of the goods to remain competitive. Also, packaging of seasonal goods must not preclude sale of the merchandise after the current season.

Considerable floor space is needed for this type of packaging operation, because additional equipment and space are required for each package added to the line.

50% Increase in Tricot Machines Since 1946

IN 1955 there were 3263 tricot knitting machines in 129 mills in the United States, according to information recently published by Textile Machine Works' Wire Products Division.

This represents an increase during the ten-year period 1946-1955 of 1534 machines but a decrease of 219 below the all-time 1953 high of 3482.

Some other facts presented in the report follow:

42 per cent of the machines are in mills located in the South, a 10 per cent increase during the ten-year period. New York and Pennsylvania both have 23 per cent of the machines at the present; Pennsylvania has retained her position over the ten-year period, but the New York percentage has steadily dropped from a high of 42 per cent in 1946. New Jersey and New England have 10 per cent of the machines today; whereas in 1946 they had only about 1 per cent. Two per cent of the machines are located in the Middle West and California, a figure which has remained steady for the entire period.

73 mills operate fewer than 20 machines; 37 operate from 20 to 50 machines; and 19 operate more than 50.

New Resin and Softener Offered to the Trade

by **LEWIS C. GREENE**
Sales, Greenville, S. C.

Following on the heels of STANSET D 40 and STANSET S 100, Standard is proud to announce the addition of a new, unique resin to the STANSET family and the development of STANTONE, a new and improved softener.

The new resin, STANSET Z-98, is particularly applicable to cotton fabrics and, when used with CATALYST AH, gives above average crush and physical properties. The other outstanding properties of STANSET Z-98 are:

- Low Chloride retention over a wide range of curing conditions.
- When subjected to repeated chlorine washes or alkaline washes, no noticeable hydrolysis is observed.
- Non-yellowing with hot chlorine solutions.
- Excellent reflectance after a mild perborate wash.

STANTONE is the culmination of extensive work to develop a softener to meet a variety of finishing operations. It is a substantive softener and anti-static agent in the form of a white paste that dissolves easily in hot water to form a hazy, opalescent solution having a pH of 6.5. It is stable under alkaline, acid and neutral conditions and is unaffected by hard water.

Because of its amphoteric character, STANTONE is compatible with most textile auxiliaries, such as finishes, dye assistants, etc. It has a minimum effect on light fastness and shade of dyed fabrics and does not discolor white fabrics.

STANTONE has proved very effective as a softener and anti-static agent on cotton, wool, rayon, acetate and nylon. Application can be made in the rinse after dyeing or by padding in the finishing operation. It can be used as a softener in resin baths or as a top softener after resin treatments.

Standardgrams

Standard Offers Technical Know-How to Complement Its Line of Products

The extensive and continuing development work conducted in our laboratories has over the past years resulted in an ever expanding line of improved products for the textile industry. The new resin and new softener discussed in an adjoining column by our Southern Representative, Mr. Lewis C. Greene, are cases in point.

In addition to the development of new textile chemicals, however, much of our research is devoted to the improvement of older, proved and accepted products so as to give Standard a full line of superior dyeing and finishing materials.

For cotton and synthetic dyeing and finishing of piece goods, we have a product for every operation:— boil-off and bleach assistants, mercerizing penetrants, dispersants, level dyeing aids, detergents and strippers. For the finishing department, we have sulfonated oils, non-ionic softeners, wetting and rewetting agents and sanforizing oils. We feel our resins are of the highest quality for cotton and synthetic fabrics.

Special formula products for your individual needs can be manufactured by chemists and production men who know and understand the technical applications in your mills. We offer technical service by men who, through years of valuable on-the-job experience, have the know-how to solve your mill problems.

We would more than welcome a chance to prove these claims about our products and staff. Why don't you give us a call?

Bluing Migration Prevented

In starching an occasional lot into a box, many finishers often are troubled by migration of bluing and salts left in the goods from the bleach. STANTEX® 101 is a softener that will not only perform its primary function but will also prevent this migration.

STANRAY 217 is recognized as a superior all-round softener for napping, starching and filling. It is preferred by many finishers because it does not yellow and has no odor.

For that *softest feel* on your high grade shirtings, STANDAPOL® 16 is highly recommended. It has all the *non* qualities that are a must, together with good sewing and ironing.

Tips for the Dyer

If you are having neppy dyeings on your work clothing, RETARDINE® will eliminate the condition and give you the smooth look you have been seeking. Another sure bet for dispersing your dyestuffs and getting the penetration is STANTEX PENETRATOR 111. When it comes to dissolving and dispersing naphthol color salts and bases, STANTEX NR-2 is highly recommended . . . it also makes them penetrate into the fibre when coupling. For tub and beck dyeing, we highly recommend PYROTEX 121.

STANDARD CHEMICAL PRODUCTS, Inc.
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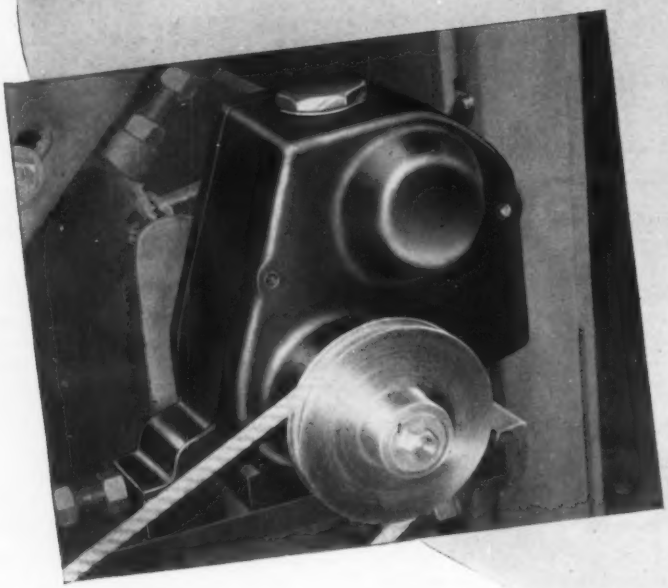
SUNBURY, PA. · SACRAMENTO, CALIF. · GREENSBORO, N. C. · GREENVILLE, S. C.

NOW... from SACO-LOWELL

A NEW ANTI-FRICTION COMB BOX AND FOOT END ASSEMBLY



Completely redesigned in accordance with the best engineering principles, following closely the bearing manufacturers' recommendations, Saco-Lowell now makes it possible to eliminate costly and frequent replacement of comb box components.

This new comb box provides smoother, cleaner operation and requires virtually no maintenance. Oil leakage is eliminated through the use of oil-proof seals. No adjustments of any kind are necessary to compensate for wear. Power consumption is extremely low and operation is extremely smooth.

A special anti-friction bearing foot end stand is a vital counterpart of the new comb box assembly. For the first time, a micrometer-type adjustment, both vertically and horizontally, makes possible perfect alignment of the comb.

All moving parts are supported by anti-friction bearings of adequate size and capacity to assure long life. Lubrication is through a splash-type oil system, as recommended by the bearing manufacturers.

This new comb box and foot end assembly may be applied to old and new Saco-Lowell cards, Saco-Pettee cards and other makes of cards now in the mill. Another Saco-Lowell advancement that is continued proof "It Pays to use Genuine Saco-Lowell Repair Parts."

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• Manufacturing Briefs • Kinks & Short Cuts • Comments from Readers •

Write to the Editors!

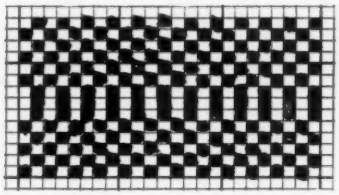
Readers are invited to make use of this section for further discussion of published articles, or for discussion of problems arising in the plant. Names will not be used without permission. Payment is made for practical articles or for letters containing manufacturing information.

Address: Editor "Textile Industries," 806 Peachtree St., N. E., Atlanta 8, Ga.

How to Weave Filling Cords on Cam Looms

EDITOR TEXTILE INDUSTRIES:

There are many types of fabrics and constructions, made for various end uses, that are woven on a plain 2- or 4- harness cam Draper loom. The basic weave used is ordinary plain weave. This plain weave is sometimes ornamented by the introduction of warp cord effects. These may consist of two ends of heavier yarn than the body of the warp weaving as a "flat," or possibly some crowded dents in the reed, there being several ways in which warp cord effects can be produced. [See TEXTILE INDUSTRIES for December, 1955, pp. 99-102.—Eds.]



The wish is often expressed by salesmen, customers, and others, that these warp cords be balanced with a filling cord, thus making a check pattern. It is usually considered necessary to use a dobby to obtain these filling effects, and where only plain cam looms are available, these fabrics are often passed by. However there is one simple way to weave filling cords on a cam loom, as outlined below, that is often entirely acceptable.

A box motion and box chain, as used on a box loom, will be necessary, and this should be mounted on the loom in the usual manner. Fairly strong springs should be attached to the floor and to the bottom of each harness treadle. The box chain will be so arranged and pegged that when the filling cord effect is wanted an extension from the box chain will pull against the appropriate har-

(Continued on page 201)

$100 **HURRY! HURRY HURRY!** **$100**

Kink Contest Closes April 15, 1956. Send Your Entry Now!

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance. The $100 award will be made as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, April 15, 1956.

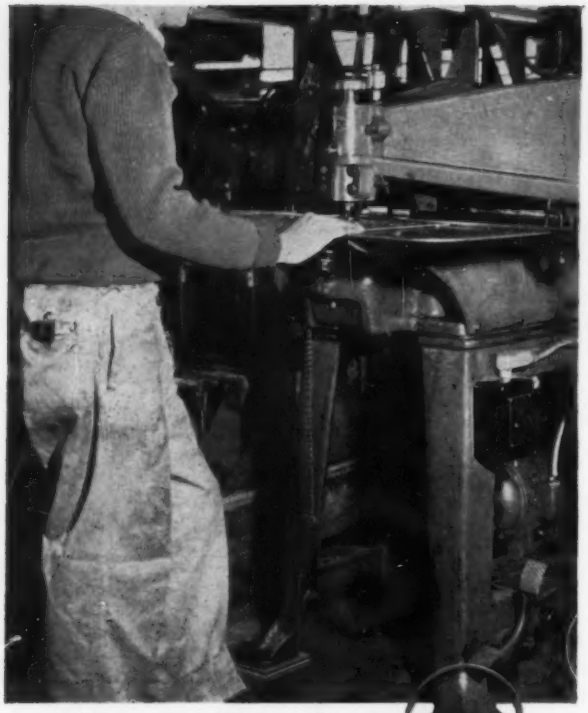
► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

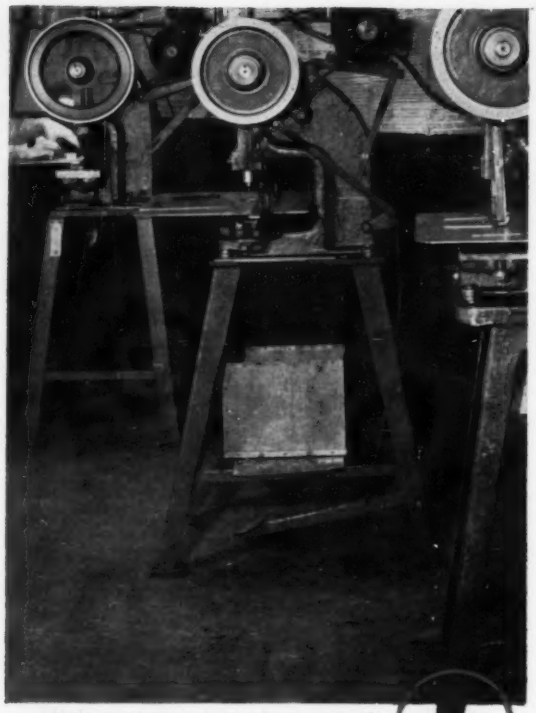
► Entries must not have been published previously and must not be submitted to any other publication.

Send your contest entry to:

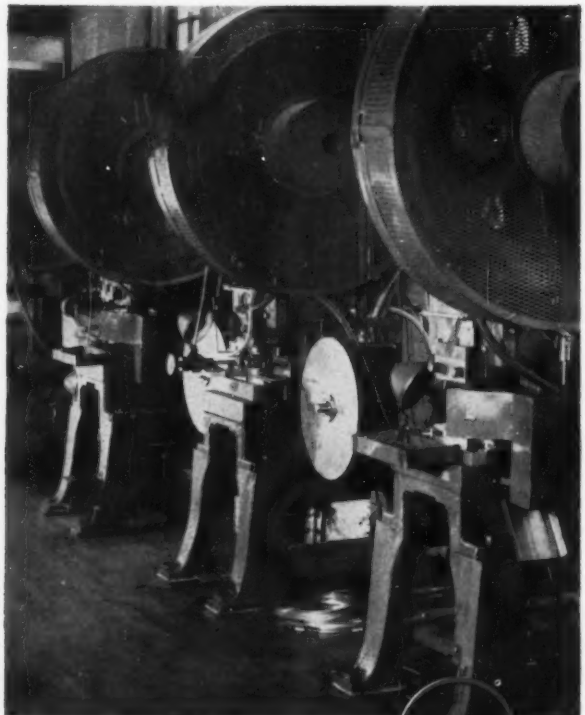
Editor TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.



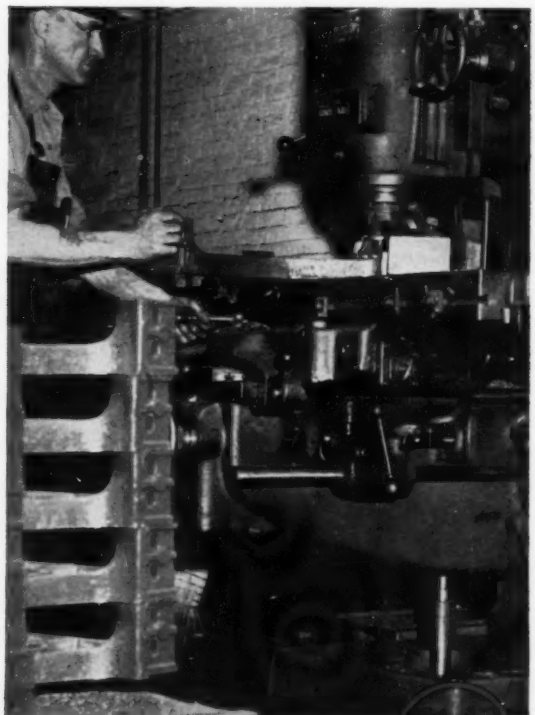
An Alabama mill uses *Unisorb* pads for spinning frames, warpers, looms and other machines, finding it a simple, efficient and economical method of installation.



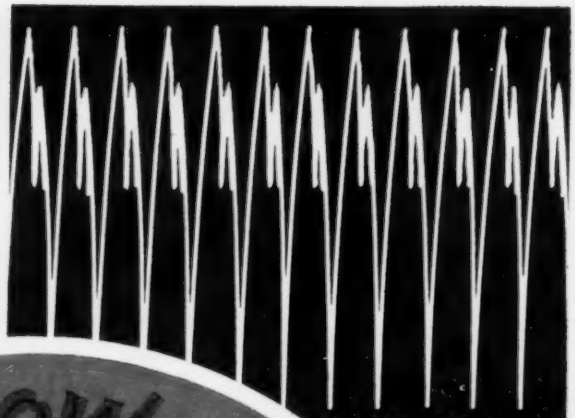
A North Adams woolen mill uses *Unisorb* under Burr Pickers, Pickers, Cards, Spinning Frames and other C & K woolen looms — helping materially to reduce vibration factor.



This Rhode Island mill finds *Unisorb* holds looms to concrete *without* lag screws. Vibration and shock have also been tremendously reduced by using the *right* type of *Unisorb*.



Draper looms and Barber-Coleman High Speed Warpers are anchored on wood floors with *Unisorb*, without bolts or lag screws. Vibration and noise have been reduced.



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Four types of Unisorb have been developed to speed the installation and drastically cut the vibration of all your textile machinery.

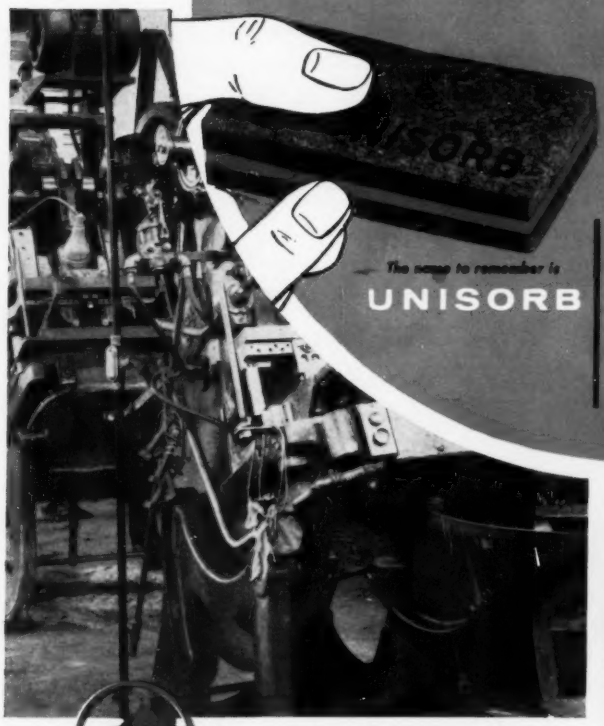
This is how Unisorb works for you . . .

- **Saves up to 80% on installation time**
- **Cuts installation costs up to 30%**
- **Stops up to 85% transmitted vibration — increases machine life and operator efficiency**
- **Eliminates all bolts and lag screws, no drilling or patching. Easy to relocate machinery**

No bolts or lag screws needed to anchor 120 C & K W-3 woolen looms.

Be sure you get just the right type, density and firmness for vibration-free anchoring — specify Unisorb. For over twenty years, textile men have been using this mount to make their plants a better place to work and more profitable to run. Take advantage of this cost saving the next time you install or move a machine.

Send for "Facts about anchoring your textile machines" . . . for a pay-off in your plant.



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You may have the very best cards in the world . . . but is your Card Clothing properly engineered to obtain maximum production of top quality fabrics? Remember, it is your Card Clothing that does the actual work.

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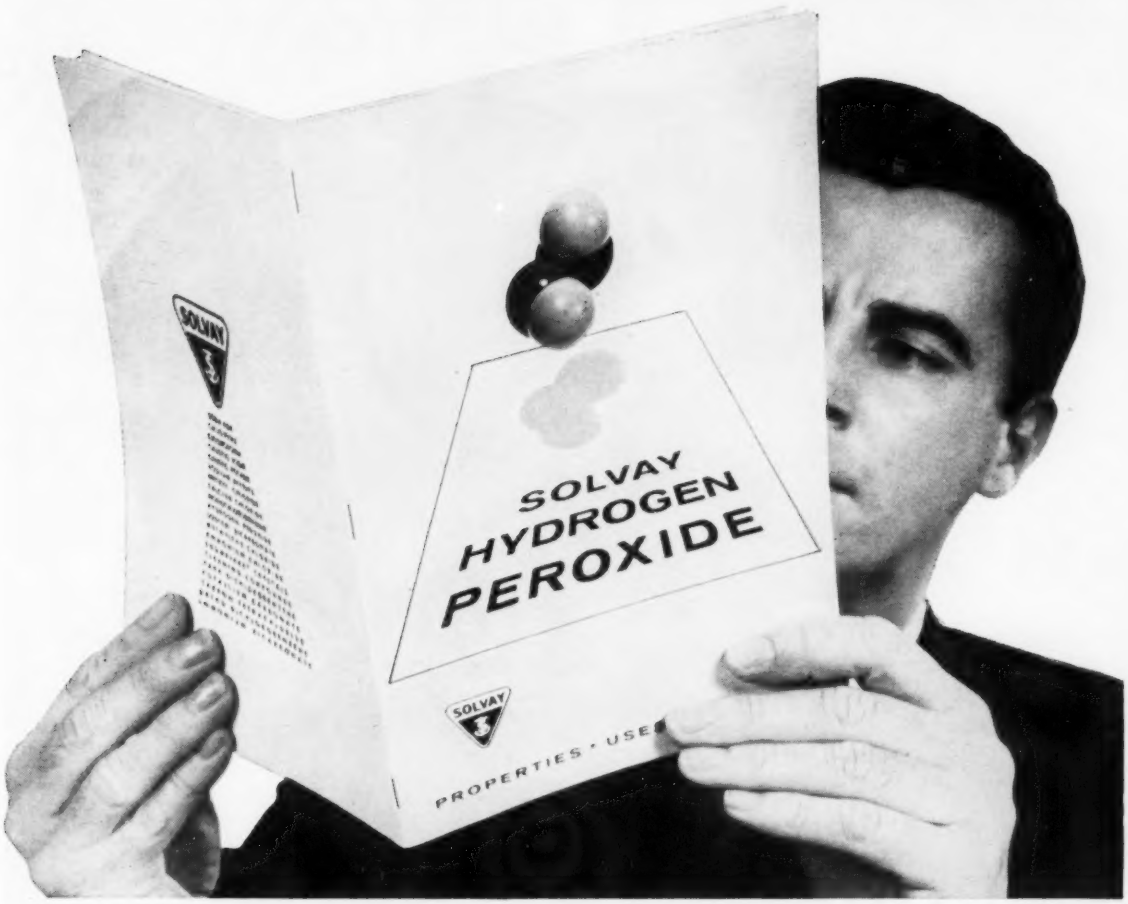

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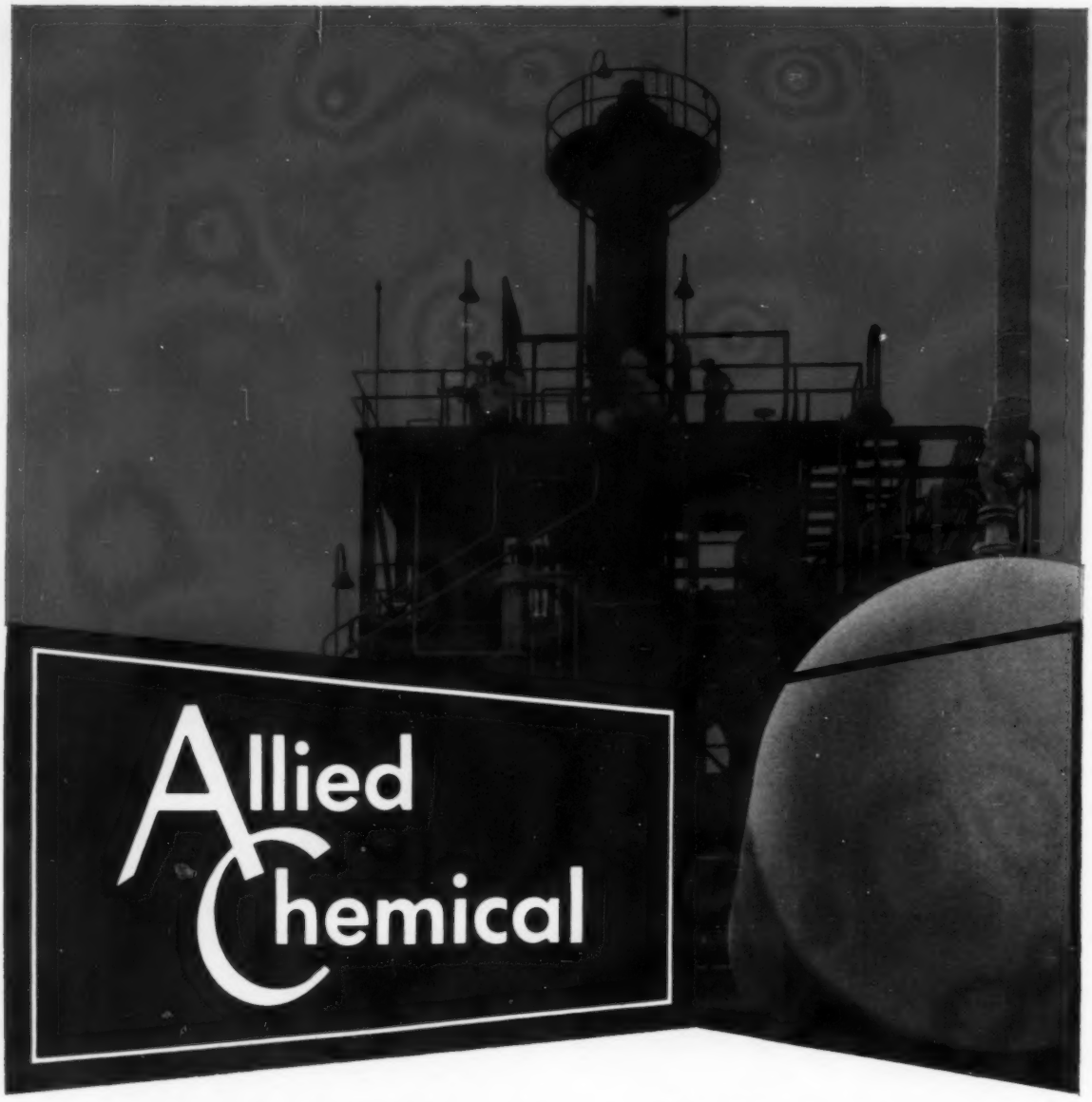

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(Continued from page 195)

ness, causing it to go against the action of the cam and to be held in this position for one pick through the pull of the springs on the treadle.

This will weave one pick opposite to the lift ordinarily inserted and produce a filling cord effect as shown in the accompanying weave diagram.

Obviously this device can only produce a filling cord on three or five picks, not on an even number of picks as could be done with a dobby, but the decorative effect which is introduced at fixed, predetermined intervals as controlled by the box chain, is quite acceptable for many purposes. If desired, the pick pawl can be raised at this point under the control of the box chain and thus produce a crowded pick, or double density effect.

This same filling effect can also be obtained on box cam looms, and in this case the box motion will be already in place. The appearance of the filling cord on box loom fabrics may be still further accentuated and enhanced by introducing a different color or texture of yarn for two or four picks in the filling cord.

CONTRIBUTOR No. 8834

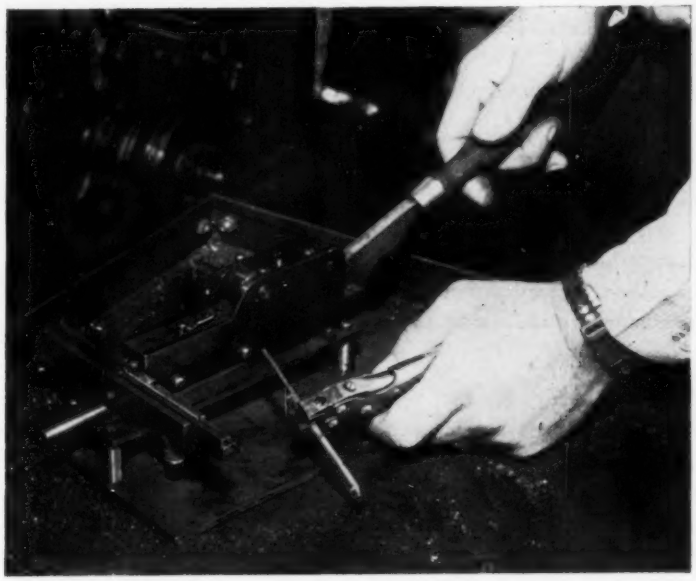
Mill-Made Jack Breaker Saves Time

A jack breaker designed and built by Howard Bridges, Midway Hosiery Mill, Inc., Hickory, N. C., does a much faster job of breaking jacks for SCP machines than the jack breaker pliers usually used.

The Bridges jack breaker is mounted on four legs attached to a piece of sheet steel and includes a spring-loaded track or receiver which holds the individual jacks.

A steel punch is located in the body of the device and is controlled by upward or downward movement of a handle. Each time the punch is actuated a tripping mechanism allows the spring-loaded track to move transversely in relation to the punch and the width of one notch on the jack, thereby positioning the jack ready to break the next tooth.

This device is a time saver in that jacks may be broken in about one third less time than by other well-known methods.



JACK BREAKER designed by Howard Bridges with regular pliers-type jack breaker.

Question on Dyeing Nylon Muffs Answered by Author

EDITOR TEXTILE INDUSTRIES:

With reference to the article on dyeing nylon muffs which appeared on pages 73-75 of the January, 1956, issue of TEXTILE INDUSTRIES, what are the comparative poundages (full load) on the carrier of nylon muffs compared to cotton wound on 6¾" dye tubes? Could a regular cotton carrier be used, utilizing all spindles, or is it necessary to respace spindles or eliminate part of them when dyeing nylon muffs?

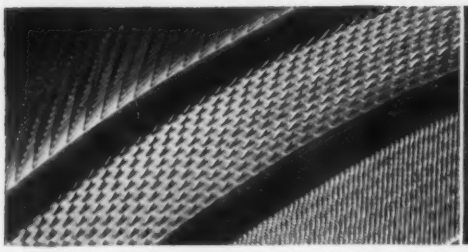
If a special carrier is made with less spindles, how many spindles are used for nylon muffs compared with 6¾" dye tubes on the same size carrier?

CONTRIBUTOR No. 8849

EDITOR TEXTILE INDUSTRIES:

Full-load poundages of muffs will amount to about 35-50% of capacity, compared to 6¾" tubes. For example, if you have 600 pounds of cotton on 6¾" dye tubes, this would be equivalent to 210-300 pounds of nylon muffs.

If carrier spacing is from 7-7½" between spindles, the spacing is



Ashworth Tips ON CARDING

No. 28 in a Series

CONTROL OF AIR CURRENTS

Much has been written and said about air currents on the revolving flat card. We, as a card service organization, know that these air currents are generated by the speed of the lickerin and cylinder. We also know that the screens under the lickerin and under the cylinder, and the plates around the cylinder, are put there to control these air currents.

We have learned that the screens must fit properly and be of the correct contour to permit setting exactly to gauge at all setting points. This same thing is true of the various plates at the front and back of the card. The make-up pieces on the lickerin bonnet and on the doffer bonnet should also be made to fit your particular model of card.

Unless these screens and plates function as they should, you cannot expect to control the amount of waste and fly or the quality of work produced by your cards. To enable you to do this to the best of your ability, we offer the following suggestions:

1. Institute a regular inspection schedule on screens, plates, and make-up pieces.
2. Obtain these parts from only reputable manufacturers who know their business.
3. Have your maintenance men work very closely with your card grinders in the inspection of present screens and plates, and check on the ability of these parts to be properly set to gauge at all setting points.
4. Be particularly critical of new screens and plates.
5. Set up a once-a-year cleaning schedule on cylinder screens, this to be in addition to any inspections made. The lickerin screen is usually cleaned when the back of the card is re-set.
6. By following regular inspection and cleaning schedules and being certain that screens and plates are made for your particular make and model of card, you will have control over the air currents. The end result will be control of waste at the card, longer life of card clothing, and better quality of card sliver.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River*†‡ Worcester‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)
E. G. Paules, Representative — Los Angeles, Calif.
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Clothing for Cotton, Wool, Worsted, Silk, Synthetic Fibre and Asbestos cards and for All Types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire. Lickerins and Topflats Reclothed.

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satisfactory, and the spacing is all right for muffs.

The answer to CONTRIBUTOR No. 8849's last question depends on the machine available. 16 spindles on a carrier which will lift into a 34" inside diameter dye kier make a suitable arrangement. This size kier could use approximately a 7" spacing. Naturally, the 16 spindles should be evenly spaced over the area of the carrier.

HERBERT GIRARD
Central Yarn and Dyeing Co.

Is It "Crimp" or "Take-Up"?

EDITOR TEXTILE INDUSTRIES:

A young man in our department, who is taking a textile course offered by a well-known correspondence school, called our attention to the use of the terms "crimp" and "take-up" in their textbook on cloth calculations. The terms, as used, appeared to be synonymous.

We manufacture industrial fabrics and these terms are used in most of our customers' specifications, and while we will agree that they are measures of the same property of the fabric, the *values* for "crimp" or "take-up" are not the same, so it is very important that we know what the customer means when he uses either of the terms.

We have a great deal of respect for this correspondence school and we do not believe that they would intentionally mislead their students, but since some of their students will be using these terms later on, we would like to see this question cleared up. We are therefore requesting that interested readers of "How Other Men Manage" discuss the use of "crimp" and "take-up" as they use it in their own mills.

We would like to quote some authorities on this subject, as follows:

A.S.T.M. Standards on Textile Materials. October 1954, page 3, Designation D 123-54, Standard Definitions of Textile Terms:

"**Crimp:** 2. *Yarn in Fabric.*—The difference in distance between two points on a yarn as it lies in a fabric and the same two points when the yarn has been removed from the fabric and straightened under specified tension, expressed as a percentage of the distance between the two points as the yarn lies in the fabric."

Take-up is not defined by A.S.T.M.

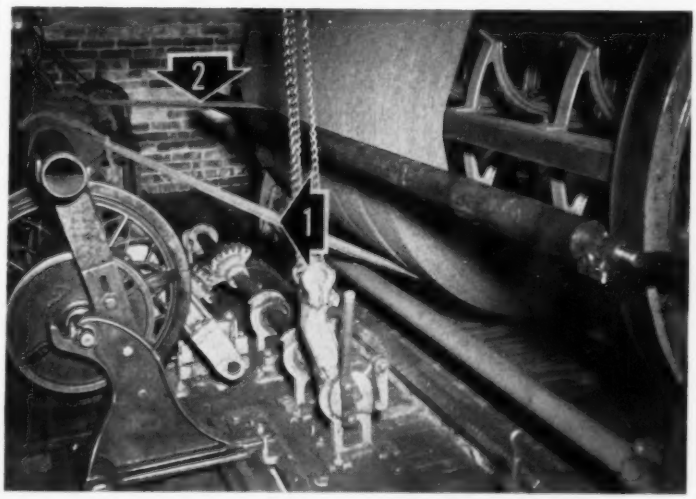
Callaway Textile Dictionary, First Edition (1947):

Page 105—"**Crimp:** 2. The difference in distance between two points on a yarn as it lies in a fabric and the same two points when the yarn has been removed and straightened. Expressed as a percentage of the distance between the two points as the yarn lies in the fabric."

Page 344—"**Take-up:** The per cent decrease in the length of a yarn in the cloth based on the original length of the yarn."

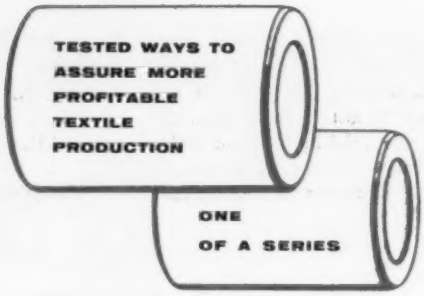
Wellington Sears Hand Book of

Extra Roll on Warping Reel Helps Prevent Section Marks



In beaming off relatively coarse woolen yarns from warping reels by taking off all of the sections, threading them over a beamer roll and onto the loom beam, the tendency is for the individual sections to retain their identity, with some twisting and rolling of ends occurring.

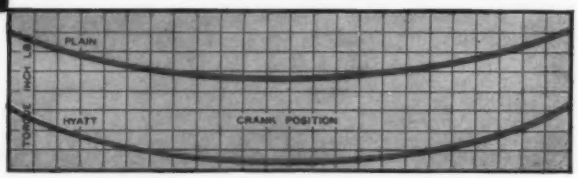
This condition has been minimized at J. A. Humphrey & Sons Ltd., Moncton, New Brunswick, Canada, by the addition of a steel roll at the back end of the warping reel. The accompanying illustration shows this roll. Arrow (1) points to one section threaded to the beamer in the old way; arrow (2) shows one section beaming off over the steel roll with better control and less section twisting.—*Staff.*



HYATT ROLLER BEARINGS SAVE FROM 5% TO 40% ON POWER

(Above) A standard dial-indicating torque wrench, attached to loom crankshaft, records effort in inch-pounds required to turn loom over.

(Right) Chart plots torque readings taken every 30 degrees throughout complete revolution of Hyatt-equipped C & K Model S-6 loom, compared to identical loom with plain bearings.



When HYATT Roller Bearings are installed, the reduction in effort required to turn over looms by hand runs as high as *fifty percent*, as shown in the above chart. In exhaustive tests on two groups of identical looms weaving the same cloth construction, those equipped with 11 HYATT Roller Bearings required only *one-half as much effort* to turn over by hand as the looms with plain bearings. This means less fatigue for the weaver, less hazard of hernia, and quicker completion of the pick-out operation. Women weavers particularly appreciate, and work more efficiently on, roller bearing looms.

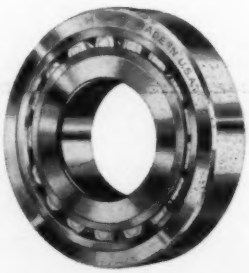
However, substantial power savings can be obtained only by fitting a large percentage of the bearing positions in a given machine with roller bearings. This usually permits the use of smaller motors; or, if motor size remains the same, speed may often be stepped up to increase production.

Be sure to specify roller bearings by HYATT—*the pioneer in their application to the textile industry*—when you modernize or replace *any* of your machines. HYATT, America's *first* and *foremost* maker of roller bearings, leads the field in textile bearing know-how. For further details on the profitable application of HYATTS to textile machinery, request Bulletin T-54 from Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

NO TEXTILE MACHINE IS BETTER THAN ITS BEARINGS!

HYATT ROLLER BEARINGS

STRAIGHT BARREL TAPER



Industrial Fabrics, Third Edition, pages 378-380:

"The property of sinuosity as regards woven yarns in a fabric is called *crimp*. . . . . There are two methods of rating the sinuosity of threads in fabric. In each a marked length of fabric, generally 10 inches, is carefully set off. (We use the Brighton Mills crimp tester, which requires 8 inches.) Ten or more threads are then raveled from the warp and filling. These are straightened, but not stretched, and measured between gauge marks in this condition. The extension of the yarn [the word *fabric* appears here in the original, but from the context the word *yarn* was intended by the author] by the straightening process, in terms of its original length in the fabric, is called *crimp*. The sinuosity may, however, be rated in terms of the straight yarn. If the extension described above is rated in per cent of the straight yarn length, the term *take-up* is applied to the result. It is evident that *crimp* is a laboratory term and has to do with the manufactured goods after delivery and when under analysis. *Take-up*, on the other hand, is a mill term with relation to looms and indicates the shortening of the yarn by the sinuosities of weaving. There need be no confusion in these terms, though their relative importance has been a matter of discussion."

We will illustrate the difference in actual values of "crimp" and "take-up," as we understand them, by the following example:

Marks, 10 inches apart, are made on a fabric. Yarns are removed and straightened under a specified tension. The length of the straightened yarn, as measured between the original marks, is found to be 12 inches.

$$12 - 10 = 2$$

The *crimp* calculation would be:

$$\frac{2 \times 100}{10} = 20.00\%$$

The *take-up* calculation would be:

$$\frac{2 \times 100}{12} = 16.67\%$$

We believe that these calculations make it clear that, while "crimp" and "take-up" are measures of the same property of the fabric, the values of each are quite different and they cannot be properly used as synonymous terms. We would like to know, however, how the readers of this department use the terms in their own plants.

CONTRIBUTOR NO. 8845

Easy Way to Hold Picker Stick While Tightening Screw

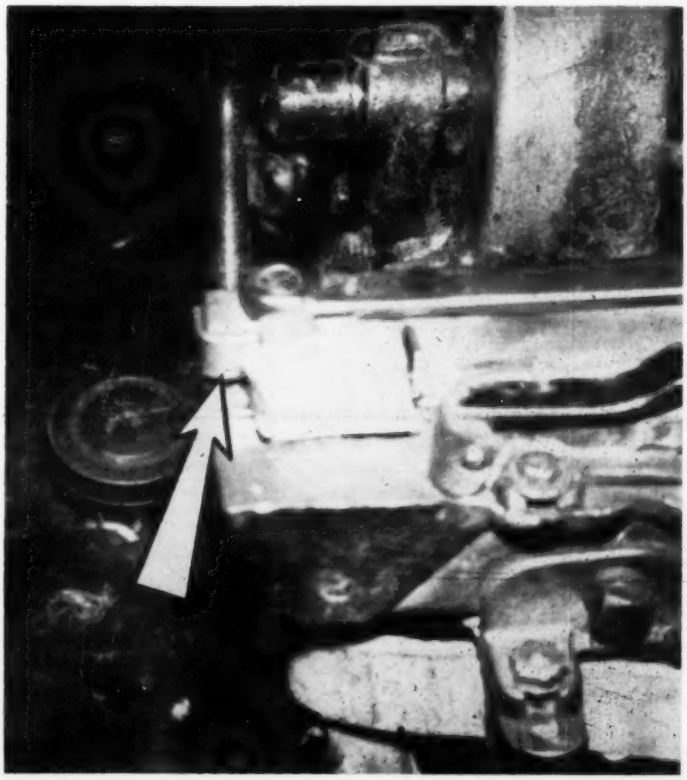
EDITOR TEXTILE INDUSTRIES:

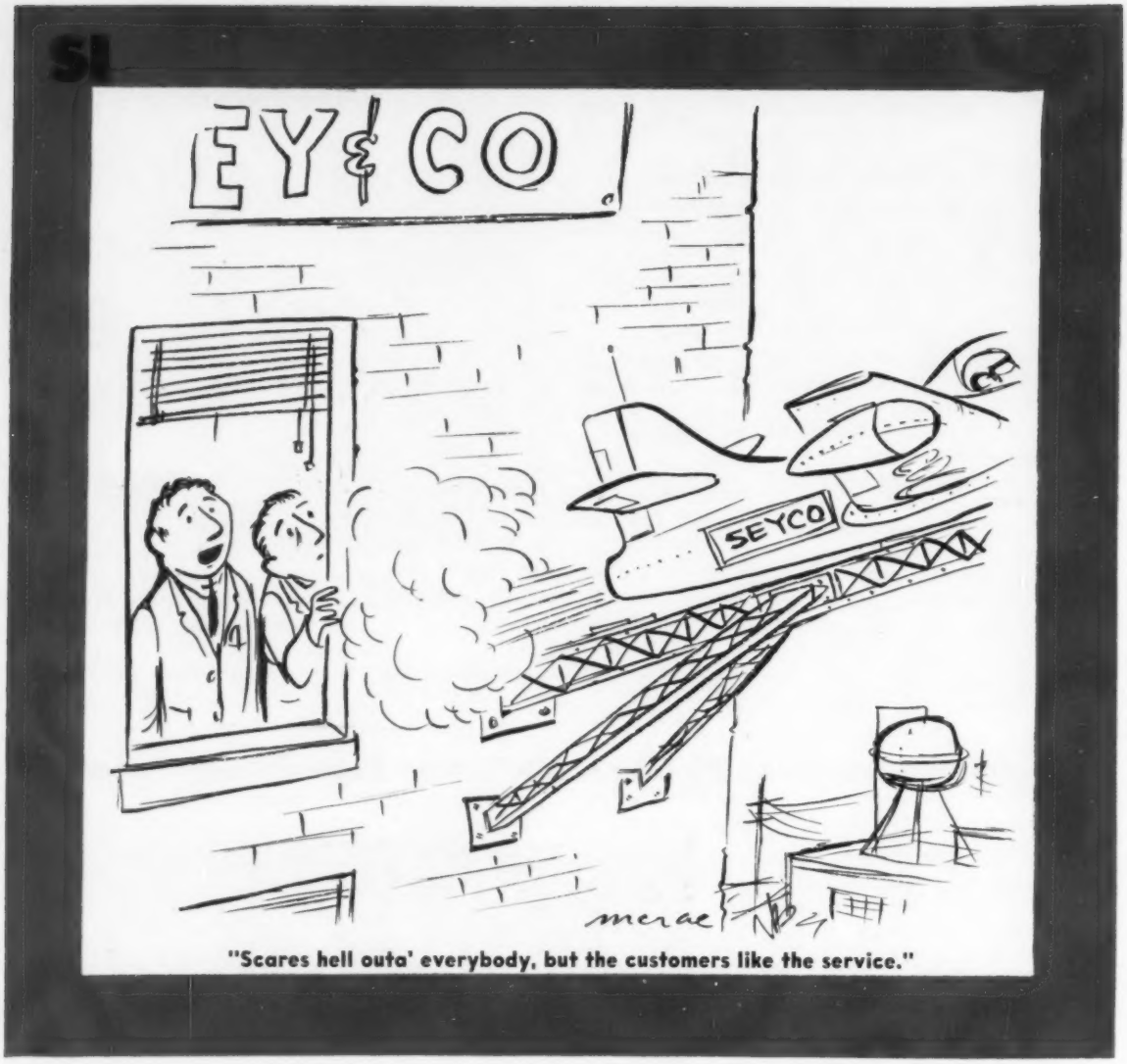
On looms with tight pickers, a screw is used to tighten the picker to the stick. This screw is small and difficult to get in straight because of the limited space to work in, but it must be screwed in very tightly.

Loom fixers generally stick a screw driver or hammer in the picker stick slot when they are drilling the hole for the screw and screwing it in, so that the stick will not move. However, the screw driver or hammer sometimes slips, and skinned knuckles, broken drills, or screws driven askew result.

We use the device shown in the accompanying photo to hold the picker stick. It is made of ⅛-inch flat iron, 4 inches long, with 1-inch legs projecting at right angles at each end. One end fits over the end of the back binder and the other over the front of the picker. This holds the picker stick firmly in place, so that the screw can be driven in straight and solid.

CONTRIBUTOR NO. 8720





"Scares hell outa' everybody, but the customers like the service."

Talk about SPEED

We like to. It's one of our finer points. Tight deadlines are old hat. We grew up with 'em. Next time you're stuck for time and need rocket-style delivery of one of our "standards," or something tailored to order, call us and see how fast we can deliver the goods.

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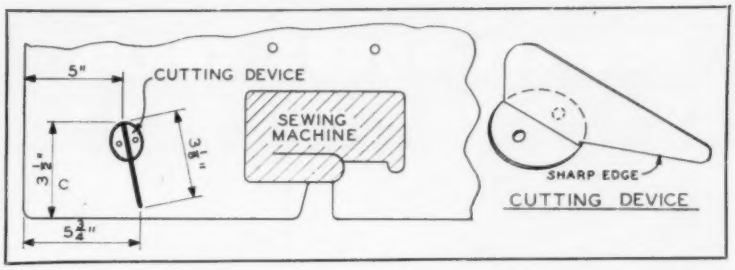
Knife For Cutting Cloth Seams Is Quick and Safe

EDITOR TEXTILE INDUSTRIES:

For many years I have been overseer in the napping section of a large mill. In napping fabrics, we use what we call an "electric seam," made by an overlock sewing machine.

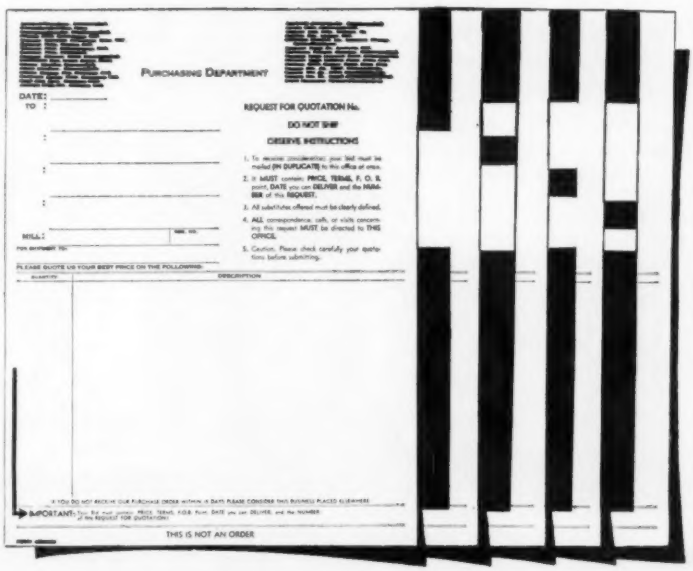
The dyehouse delivers the goods in trucks, but the goods are sewed together by a common mill sewing machine; we have to cut off these seams and make an "electric seam." For many years we had trouble in cutting off the old seam without losing too much time, without the workers getting injured with knives or razor blades, and without the cloth being damaged by the workers pulling and tearing on it.



I solved this problem by putting a little sharp-edged metal gadget on the overlock machine table (see accompanying sketches). Now all the operative has to do is to rub the tail of the cloth lightly against the sharp edge and tear it off. The whole operation takes only a few seconds, and is absolutely safe.

CONTRIBUTOR No. 8844
(*Argentina*)

Purchasing Department Form Saves Time and Labor


PURCHASING DEPARTMENT

DATE:

TO :

REQUEST FOR QUOTATION No.

DO NOT SHIP

OBSERVE INSTRUCTIONS

1. To receive consideration, your bid must be mailed IN DUPLICATE to this office at once.
2. It MUST contain PRICE, TERMS, F. O. B. point, DATE you can DELIVER, and the NUMBER of this REQUEST.
3. All substitutes offered must be clearly defined.
4. ALL correspondence, calls, or visits concerning this request MUST be directed to THIS OFFICE.
5. Caution. Please check carefully your quotations before submitting.

MAIL:

PLEASE QUOTE US YOUR BEST PRICE ON THE FOLLOWING:

QUANTITY | DESCRIPTION

IMPORTANT:

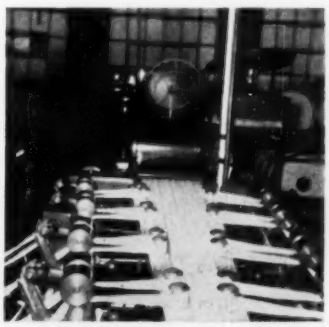
THIS IS NOT AN ORDER

"REQUEST FOR QUOTATION" FORM used by the purchasing office of a mill group is interleaved with carbon paper in such a way that it need be typed only once, but each supplier will not know from what other suppliers bids have been asked, and the name of the specific mill in the group is not revealed to any of the suppliers. Use of this form has saved enough time in retyping of requests for bids that this large purchasing office has been able to eliminate one order clerk.

Fan Increases Lap Winder Efficiency

EDITOR TEXTILE INDUSTRIES:

We have succeeded in keeping the lap table of our 10" lap winders clean and have increased machine efficiency by mounting a 10" electric fan on the machine, as shown in the accompanying photograph.



The fan prevents lint from gathering on the machine and being picked up by the slivers. The fan is wired so that it stops when the machine is stopped.

The fan is mounted on a 5" piece of ⅞" rod, and the stand is made of 2" by ¼" flat iron.

CONTRIBUTOR No. 8852

Now

JACOBS

CASTEEL DOBBY CORDS

Give You These Great Improvements

Open End Cast right to wire core. Will not pull out. Eliminates "S" hooks. Also available with closed eye.

Nylon Braid Gives dobby cord a wearing surface that outlasts cotton by far. Available in No. 8 (8/32") and No. 7 (7/32") diameters.

Turnbuckle That Really Locks. Simplifies harness frame adjustment.

Jacobs Casteel and Wire-Reinforced Dobby Cords are also available with cotton-braided wearing surface, in No. 8 and No. 7 diameters.

BOOSTS EFFICIENCY

CUTS COSTS

The BULLARD CLARK Company

SOUTHERN DIVISION Charlotte, N. C.

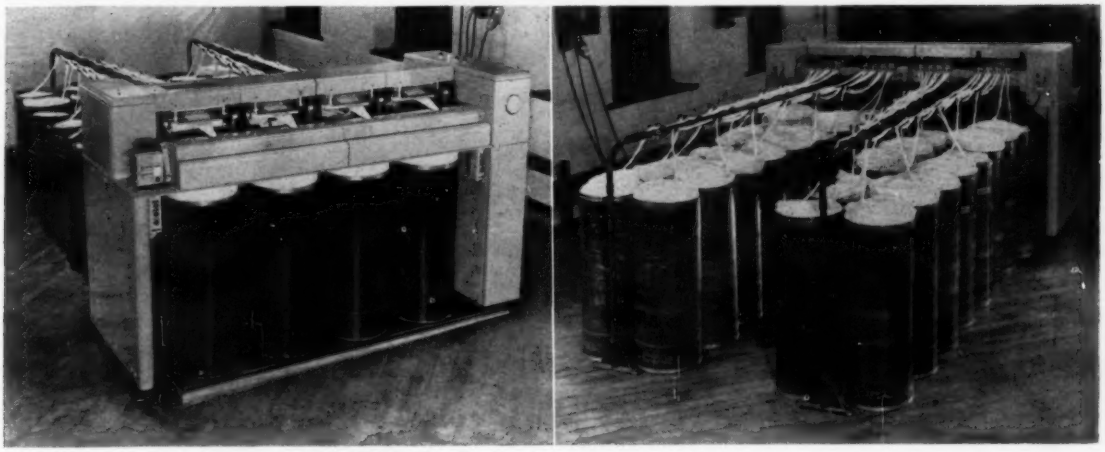
JACOBS

NORTHERN DIVISION Danielson, Conn.

NEW EQUIPMENT PARADE

Machines and Equipment . . . Supplies and Services . . . Dyes and Chemicals . . . Books

Please note: Claims made in all of these announcements of new developments are of necessity based upon information furnished by the respective suppliers.—The Editors



Front and rear views of Saco-Lowell's new "Versa-Matic" drawing frame.

Drawing Frame Produces Sliver of "Excellent Average Uniformity" at Rate of 250-300 Feet Per Minute

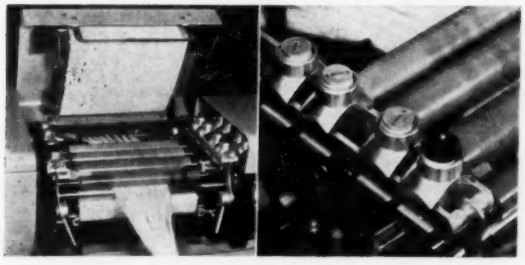
Because of its versatility, a new Saco-Lowell drawing frame built in heads of four deliveries, each head driven by an individual motor with a built-in electric brake, has been named the "Versa-Matic" drawing frame. It is a machine that will, according to estimates, deliver from 250 to 350 feet of quality sliver per minute.

Not only is this frame designed for processing cotton; it is also very adaptable for rayon, synthetics, wool, and other long staple fibers. The 4-over-5 construction permits running staples up to 2" long. For longer fibers, the back roll is removed and the frame becomes 3-over-4.

Here are some of the mechanical features of the new drawing frame:

1. Drafting Rolls—All rolls, top and bottom, are mounted on anti-friction bearings. Construction is such that possibility of worn bearings next to driven roll gears caused by force of the gears is eliminated; thus error in the drafting pattern because of crank action in the rolls is prevented.

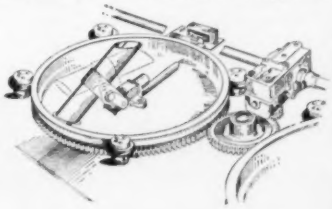
Close-up of 4-over-5 roll drafting assembly (left); note automatic clearers for top and bottom rolls. Right, close-up of overarm spring weighting arrangement.



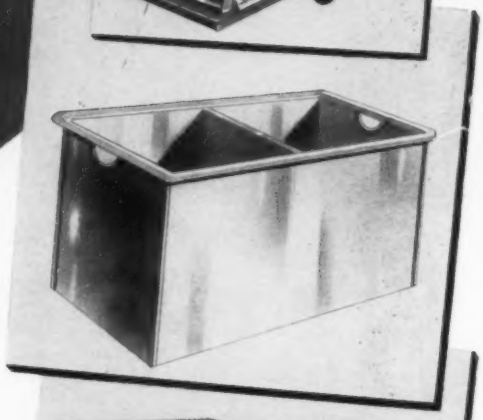
2. Weighting—Overarm spring weighting is utilized. Spring unit has small plunger or pin in center of each spring cartridge. By means of a special spanner wrench (special so that operatives cannot tamper with them), the plunger is adjusted so that the top of each pin is flush with the top of the cartridge. This makes the spring length the same, irrespective of the diameter of the top roll and insures correct pressure at all times. A glance will show if something is wrong. To facilitate adjustments when changing roll settings, spring units are simply slid back and forth in their frame to match bottom roll settings.

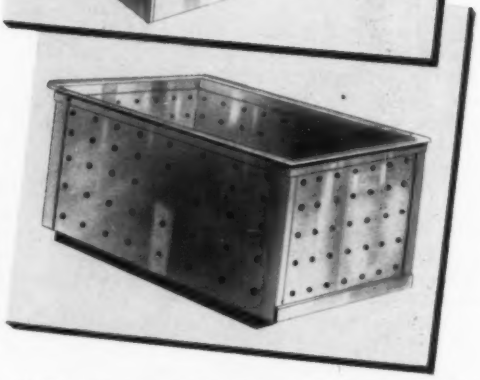
3. Calender Rolls—Bottom or back calender roll is mounted on ball bearings and driven at head end through helical gears. Ball bearings for back roll are securely held in roll stands while front calender roll bearings are free to move in or out with true rolling friction. Spring-actuated bell crank lever mounted in each roll stand provides necessary pressure on front calender roll.

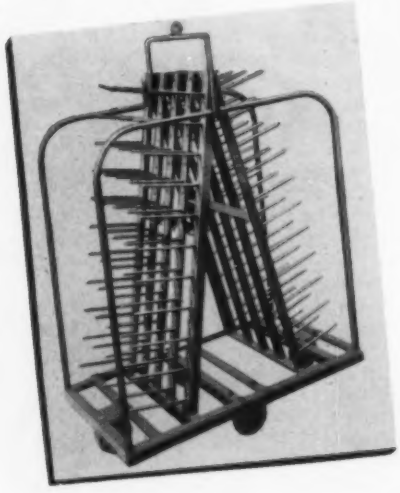
4. Tube Gears—A completely anti-friction bearing tube gear and drive assembly is provided, with no oil to contaminate the sliver. Ball bearing trunnions fitted with graphite impregnated plastic tires



WHAT DO YOU NEED IN *Materials Handling*







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Almost a half century of experience in metal fabrication is your assurance of the "BEST QUALITY" when you use *"JENKINS STURDI-BILT LINE"* of materials handling equipment . . .available in fiber and all metals.

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METAL SHOPS, INC.
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B. W. Lynch, Jr., Sales Manager

Georgia, Alabama, Mississippi, Texas, Tennessee: J. P. Goldwire

South Carolina: J. O. Goldwire

support the tube gear, and a nylon intermediate gear is located between each of the tube gears.

5. Coiler Base Plate—Turntables have a depressed flange which centers the can from inside the bottom. Thus (1) the raised flange on turntable is eliminated and (2) operator can remove can by simply sliding it off turntable.

6. Clearers—Automatic clearers are provided so that every line of rolls, top and bottom, is effectively wiped by a positively driven cloth apron, and waste carried away to a point where it is easily collected.

7. Stop Motions—Electric stop motions are utilized in five positions with four indicator lights: (1) at back behind drafting rolls; (2) at front rolls; (3) at calender rolls; (4) at tube gear; and (5) when cans have predetermined yardage of sliver in them.

Rigid unit construction insures correct alignment of components and minimum of maintenance. Smooth exterior contours reduce waste and fly accumulation on parts and minimize cleaning operations. Creel is available for 6 or 8 ends up at back. Lubrication of frame is no problem — turntables and their intermediate gears revolve on the only plain bearings on the frame; however, these are wick-lubricated from a well filled with oil and should run at least a year between re-oilings.

Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

Do you want more data? Write ◂ or use card on page 229; list D-101

Pocket-Size Radio Pager Calls Personnel Individually

Private, individual paging of textile mill operating executives is now possible with a new pocket radio paging system.

The "Handie-Talkie" low frequency radio paging system not only individually alerts and informs the paged staff member anywhere within a restricted plant or building area, but also does away with the necessity of audible and disturbing public address type paging, and bell or chime systems. No one except the pagee is aware that a message is being transmitted.

The system consists of a selector console with individual buttons for key personnel, an FM transmitter that radiates alerting tones and voice messages within a confined induction loop area, and the individual, all-transistorized Handie-Talkie radio receivers themselves.

A receptionist or telephone operator merely presses the proper selector button to activate a particular pagee's receiver alerting mechanism, then speaks the message into a desk microphone. No other receiver in the system hears either the alerting tone or the voice message which follows.

The portable receiver itself weighs only 10 ounces and measures only slightly larger than a pack of king size cigarettes. The unit can be clipped in a pocket or worn on a belt by the pagee. Battery life is approximately four 40-hour weeks. Unit operating cost is only 3 cents per 8-hour work day.

Audio volume of the paged message, while entirely adequate for the paged person to hear, nevertheless is low enough to preserve privacy and also avoid disturbing other persons nearby.

Motorola Inc., 4545 Augusta Boulevard, Chicago 51, Ill.

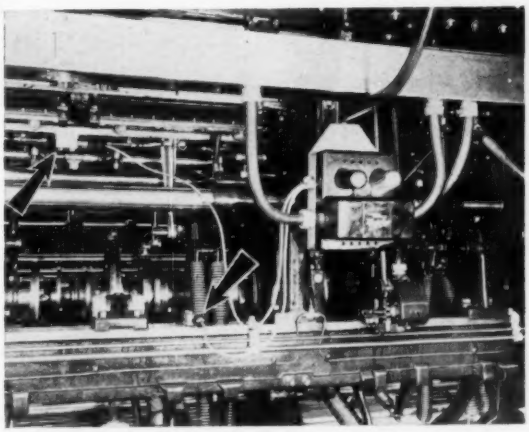
Do you want more data? Write ◂ or use card on page 229; list D-102

Temperature Control for Full-Fashioned Knitting Machines Reduces Needle Breakage and Loss in Production

Differential temperature control of the "Reading" full-fashioned knitting machines (manufactured by Textile Machine Works) is achieved by a Honeywell electronic control system which virtually eliminates needle breakage from misalignment caused by temperature variations.

Existing knitting machines can be equipped with this control, as well as new ones. (According to information received from Textile Machine Works, this temperature control has been adopted as standard equipment on all new Reading machines since January 1, 1956; and all 75-gauge Reading machines, regardless of the date of their purchase, are equipped with it.)

Two resistance bulbs detect the center bed and base temperatures. Both bulbs are inserted in aluminum blocks, one of which is attached to the center bed and the other to the base. The bulbs transmit a signal to a



modified Honeywell "Moduflow" relay which operates contacts that open or close, depending upon whether the temperature difference is above or below the set point.

These contacts are connected to a heating element, which is mounted on the back of the center bed, and heats the center bed if the temperature difference falls below the set point. A temperature change of as little as ¼ F at the bulb is sensed by the relay, and corrections are made accordingly.

Textile Machine Works, Reading, Pa.

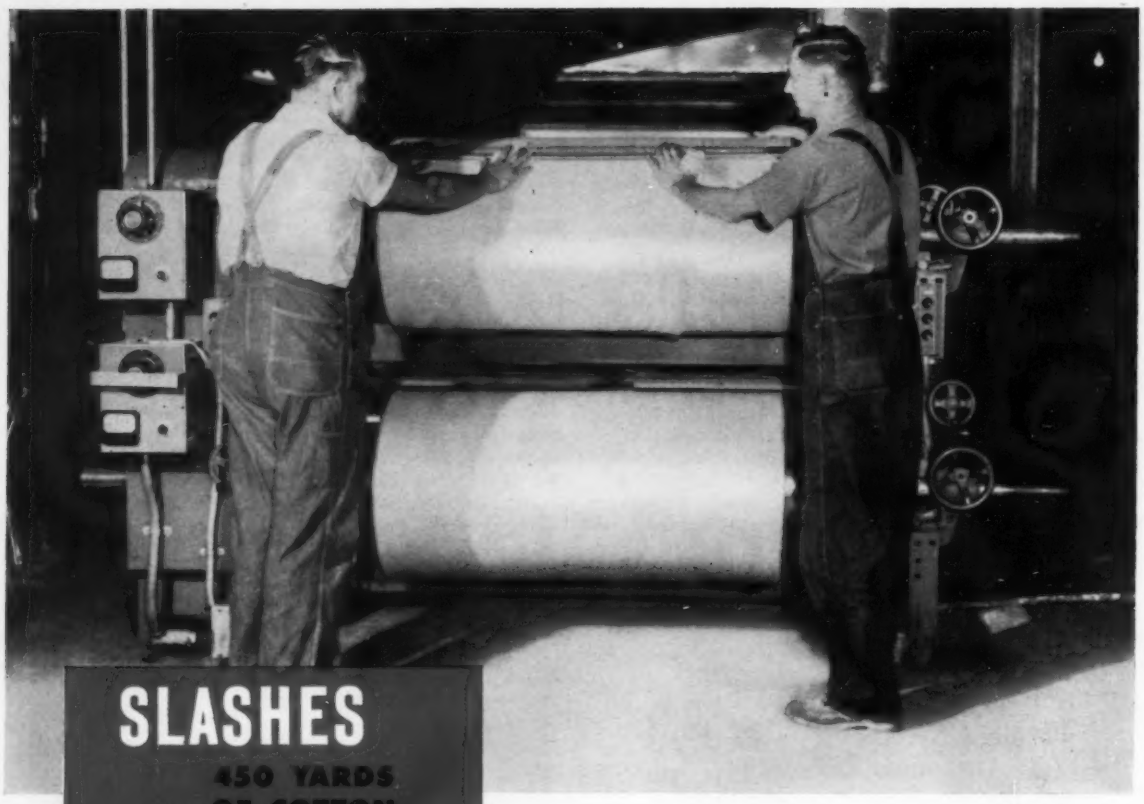
Do you want more data? Write ◂ or use card on page 229; list D-103

Device Assures Better Weaving by Providing Positive Warp Tension Control

Especially suitable for a double beam setup such as that often used for leno, ribbon, terry, and pile fabric weaving is the Ritsky letoff motion which provides positive control of the tension on the warp. Necessity for use of large, bulky weights hanging from each warp beam and obstructing aisles is eliminated; consequently, looms are more easily accessible from the rear and more space is available.

Here is how the letoff works:

As tension builds up beyond the desired point, the pry bar slightly opens the two ends of the braking arrangement at the tension adjustment point. This prevents over-



SLASHES

450 YARDS OF COTTON PER MINUTE

This double-beam slasher is powered by a Reliance Packaged Multimotor Variable-Speed Drive, with the automatic drive controls located 20 feet away from the machine, completely out of the way.

This particular mill is slashing 450 yards of cotton yarn every minute, and is running an average of 12 hours per day.

Reliance Slasher Drives give up to 25% greater production at lower cost by winding more yarn per beam.

They are completely packaged, factory wired and tested.

Speed ranges from slow, uniform creep up to high (225 ypm.) line speed. Adjustable speed, heavy duty Reliance Gearmotors supply the drive power. What's *your* drive problem?

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tensioning the warp and provides a very uniform warp tension.

On the opposite side of the letoff motion is a quick release. This works on a camming action; and by simply flipping this lever, tension on the beam is immediately released, which facilitates backing up the beam if necessary or removing the beam from the loom.

The tension adjustment spring provides a very wide range of tension, making it ideally suitable for any type of weaving. In most cases it is desirable to adjust this tension once or possibly twice from the full to the empty beam to allow for the difference in tension needed between the two extremes.

Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

Do you want more data? Write ◂ or use card on page 229; list D-104

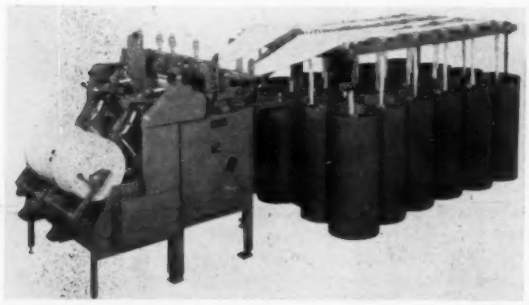
Dual Head Pin Drafter Operates at Speed of 1500 Faller Drops Per Minute

A new, high speed, dual head Pin Drafter machine, equipped for dual can, quad can, or ball delivery, provides maximum production in a minimum of space, with special design and safety features enabling the machine to operate efficiently at a speed of 1500 faller drops per minute.

When equipped for dual can delivery, the new Pin Drafter accommodates entering weights up to 3500 grains/yd/head. With quad can delivery and an apron or

dead plate infeed section, up to 1500 grains per delivery are handled, supplying a sliver weighing from 40 to 150 grains/yd—sufficient for intermediate as well as finishing operations in many mills.

The ball delivery equipment, which handles sliver



weights up to 6¼ oz /5 yd, utilizes a new linkage for actuating the traverse motion and is capable of producing a square ball up to 15" wide and 18" in diameter. Balls may be wound on any one of a variety of arbors, depend-

Accurate textile measurement is what your customers expect. Give it to them ! Show them indisputable evidence with a "TRUMETER" printed ticket or mill tag, delivered at any point during the run. This way you not only eliminate short-measure complaints and illegible hand-written records—you cut out waste *completely*. And that means EXTRA PROFITS !

" Trumeter " Standard Measuring Machine

" TRUMETER " can be fixed to most Inspection, Plaiting, Winding, Rolling and Doubling machines. Models are available for all types and widths of material —fine nylon, woollens, worsteds—even carpets, plastics, etc. It adds one way—subtracts the other and delivers its printed ticket with one depression of a lever. "TRUMETER" is always accurate—always reliable. There's one for *your* need. Write now for particulars of complete line.

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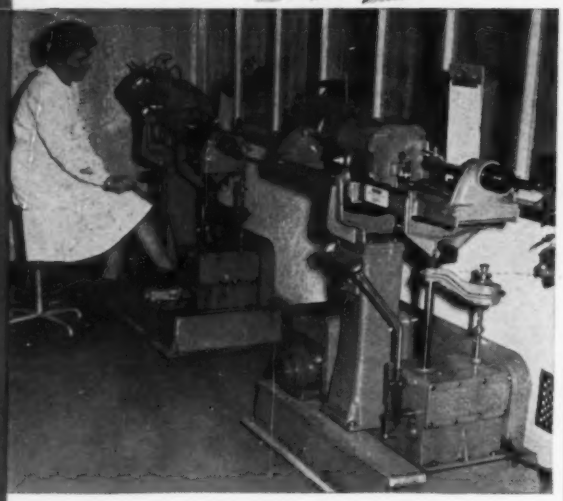
– and in Switzerland



SCOTT TESTERS* AT

Societe de la Viscose Suisse

At Emmenbrucke, Switzerland, these Incline-plane Scott Testers* are used in the laboratory of the Societe de la Viscose Suisse for the evaluation of tyre cords. These IP-4 serigraphs perform tensile and hysteresis tests from 0 to 50 lbs., or 0 to 20 kilograms. Their "picturized" result charts are readily understood regardless of language, and they test in conformance with international standards, and give a universal testing language understood and accepted everywhere. The world status of Scott equipment is attested by the fact that today

nearly 40% are shipped export.

Outline your testing problem and let us assist with literature and counsel.

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ing upon their expected end use.

The calender roll section is equipped with 6" rolls to take either single or double meche strands. A lock arrangement enables the rolls to remain open for easy threading.

Other features of the new Pin Drafter include coiler head rotor bearings sealed to prevent lint and fly accumulation and new porcelain lined steel delivery bushings.

The Warner & Swasey Co., Cleveland, Ohio.

Do you want more data? Write ◂ or use card on page 229; list D-105

Compact Sweeper for Textile Mill Aisles

A compact, new 28" rider-type power sweeper for sweeping mill aisles, warehouses, and congested areas has been developed. It is specially designed to allow mechanical sweeping in areas where larger sweepers could not be used.

Known as the Model 50, the machine is 60" long, without sidebrush, and turns in approximately its own length. Traveling at speeds of 2 to 8 mph, it cleans a 28" path (40" with optional side brush) and can sweep up to 80,000 sq ft an hour.

Extra-clean sweeping is said to result from a combined brush-plus-vacuum system utilizing high volume airflow. A 28" main brush, revolving in a vacuum-equipped compartment, hurls waste and heavy litter forward into a removable dirt hopper. At the same time, a high volume 11" fan draws dust, lint, and fine dirt from brush compartment up into a fabric bag.

The sweeper drives like a car. Clutch, brake, and accelerator pedals are foot-operated; and automatic-type cam and lever steering allows easy maneuvering. A two-tone, high-visibility finish is used—light cream above with contrasting orange at the bottom.

The machine is powered by a 6.8 hp air-cooled engine.

G. H. Tennant Co., 2524 N. 2nd St., Minneapolis 11, Minn.

Do you want more data? Write ◂ or use card on page 229; list D-106

Surface Active Agent Reduces Wet Processing Time

A new anionic surface active agent known as Isomal 265 has been developed that can be used in the processing of textiles as a wetting agent, rewetting agent, penetrant, detergent, and emulsifier. It is specially formulated to reduce processing time and increase processing efficiency in scouring, dye leveling, and similar wet processes.

The fluid is a concentrated sulfonated ester type liquid which is unusually versatile and efficient.

Some of the advantages of Isomal are: a lower surface tension, a broader range of solubility in water and nearly all organic solvents, clear in appearance, a neutral pH factor, and a specific gravity of 1.088 at 60 F, approximately 65% active and mildly pleasant in odor.

The solution is compatible with both nonionic and other anionic agents. It is stable at elevated temperatures (up to 210 F), and has no upper or lower cloud point.

The Johnson-March Corporation, 1724 Chestnut St., Philadelphia, Pa.

Do you want more data? Write ◂ or use card on page 229; list D-107

Aluminum Pick Arm Improves Picking Action at Loom

An aluminum pick arm and lug strap connection is now available for X-2 and XD Model looms.

This new, lightweight, all-aluminum construction (equipped with a Uniball end connector) eliminates binding during the pick; improves picking action and reduces wear on all component parts.

Calibrated to simplify standardizing of power settings, the aluminum pick arm permits quick, easy visual checking on maintenance of loom settings.

Draper Corp., Hopedale, Mass.

Do you want more data? Write ☛ or use card on page 229; list D-108

Device Speeds Hosiery Packaging

A new model Berrypak-er for the packaging of (1) the "Berry-Pak" (two socks on one insert) and (2) one sock on one insert has been announced.

Adaptable for seated or standing operation, the machine is manufactured in two models. Model S100 packages small and medium size boys' and girls' socks; Model L100 packages large boys' and girls' socks and all sizes of men's socks.

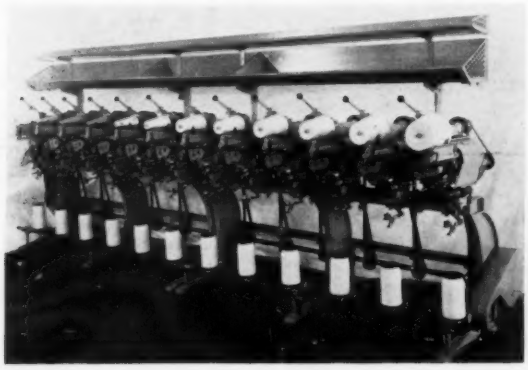
An adjustable foot pedal is provided. Only a few seconds is required to change from one size to another.

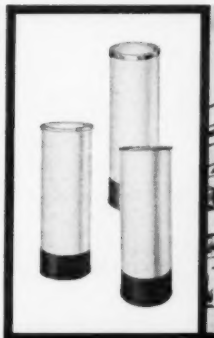
Process Machinery Co., Inc., 2506 Ashe St., Durham, N. C.

Do you want more data? Write ☛ or use card on page 229; list D-109

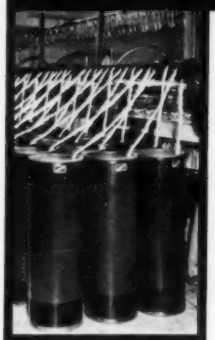
Improved Precision Winder for Heavy Yarns

New frame design of the Foster Model 77-B machine now commercially available for precision winding of heavy yarns to cones or tubes permits much greater operator efficiency and ease of operation when drawing from swifts or runner reels. Also, the number of floor





Modern mill practice demands
KENNETT RECEPTACLES



The problem of industrial production planning is to have the right thing in the right place at the right time—*in safe, steady, automatic flow.*

To solve this problem, textile men are turning in increasing numbers to Kennett as the industry standard for receptacles and prime movers. Here are a few of the many good reasons why:

Full line—There's a Kennett Receptacle for every textile handling job. Strong and smooth—National Vulcanized Fibre construction gives hard, glass-smooth surfaces that are strong, tough, resilient and durable. Light—but with long life—Kennett receptacles are light, easy to handle, but built for years of hard mill service.

A free copy of our new folder "Materials Handling in Textile Plants" awaits your request. It will help solve *your* problems—write for a copy today.

*ask the Kennett man about the great savings possible with larger-diameter seamless roving cans . . . a National exclusive.

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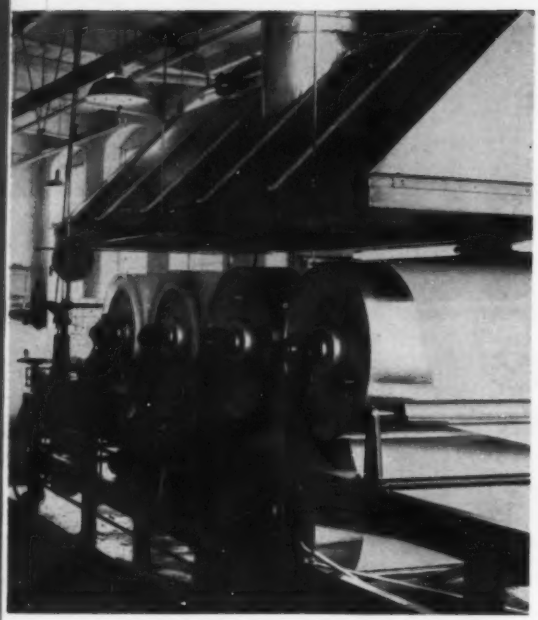
ALSO MANUFACTURERS OF NATIONAL VULCANIZED FIBRE, PHENOLITE LAMINATED PLASTIC, PEERLESS INSULATION, VUL-COT WASHERSKETS
NEW DIMENSIONS IN DESIGN AND SERVICE TO THE TEXTILE INDUSTRY



DOUBLE YOUR DRYER OUTPUT WITH NEW G-E QUARTZ INFRARED LAMP

IT is now possible to double your dryer production with only ⅓ extra investment in equipment. The extremely high heat concentration possible with new General Electric quartz infrared lamps enables you to run dryers at higher speeds and still get adequate drying. Where drying is your bottleneck you can increase the output of your entire plant.

THE G-E QUARTZ INFRARED LAMP gives you fast, positive, and simplified control. In many cases you can eliminate the mechanical safety devices needed to rotate the reflector when the web stops. That's because the output of the lamp drops 80% in only 2 seconds when turned off! And it heats up just as fast. The radiant energy output of the G-E quartz infrared lamp (that's the energy that works for you) is 85% of input. This high radiating efficiency is possible because of the high operating temperature of the lamp filament—over 4000°F!

YOU CAN USE G-E quartz infrared lamps to increase your output and improve quality either in conjunction with your steam cans or to replace steam heat altogether. For more information on how you can use G-E quartz infrared lamps to improve and increase *your* production, write: Large Lamp Dept., TI-4, General Electric Company, Nela Park, Cleveland 12, Ohio.

Progress Is Our Most Important Product

GENERAL ELECTRIC

stands has been increased from two to three per six spindle section for greater rigidity.

Drive shafts may be taken out in sections and are supported by self-aligning ball bearings. The belt gainer can be easily controlled by means of a hand wheel. Uniform guideway pressure at all package diameters is another feature.

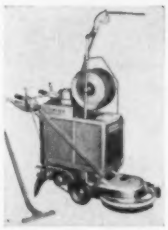
The cone holder is collapsible. A compound lever arrangement expands it when cone is put in place, and collapses it when doffing; at the same time, the cone is ejected from the holder about ¼".

The machine will wind packages up to 10" in diameter, with no need of special parts.

Foster Machine Co., Westfield, Mass.

Do you want more data? Write or use card on page 229; list D-110

One Man Can Do Work of Three with this Combination Floor Cleaning Machine



A combination floor cleaning machine, the "Lawlormatic," does the whole job—scrubs, flood rinses, and picks up the dirty water at the rate of 2,000 to over 15,000 sq ft per hr, depending on speed the operator sets the machine. And it's very easy to operate—no experience necessary.

Here are a few features of the new machine: Controls are all in easy reach on the front panel. Scrub housing is streamlined and low; so it can operate under desks, tables or in congested areas. Power driven wheels from a shaft with a differential like that in automobiles. Mechanism is simple—no brakes, no ratchets, no complicated parts.

Tanks are lined with a new compound making them impervious to detergents, acids, alcohol, etc. The fresh water tank is 13-gallon capacity, vacuum tank 17-gallon. An auxiliary hand squeegee vacuums up water from corners and along edges, eliminating a man following up with a mop.

S. C. Lawlor Co., 124 No. Aberdeen St., Chicago 7, Ill.

Do you want more data? Write or use card on page 229; list D-111

Wet Process Additive Combats Odorous Amine Compounds

"Poly-Coupler," a special chemical compound that can be used in wet processing as an additive to urea-formaldehyde, modified urea-formaldehyde, and melamine-formaldehyde resins, is an emulsion-type product that can be used to treat resins for application on natural and synthetic fabrics.

One of its major textile contributions is in reducing or eliminating the frequency of the production of odorous amine compounds in resinated fabrics, not scoured after the cure process.

The following advantages may be derived by use of Poly-Coupler: (1) the liberation of free formaldehyde can be reduced at the cans, tenter frame, and cure box; (2) penetrants (surface active agents) can be reduced or eliminated from the resin bath formula; (3) resin deposit can be made more uniform; (4) the scouring operation can be dispensed with; (5) Poly-Coupler is as permanent as the resin finish with which it is incorporated; (6) it is economical; (7) it is extremely effective on embossed, glazed or schreinered finishes, and on fabrics where the

finish or hand is adversely affected by washing; and (8) in a separate pad or quetch application, it can reclaim fabrics previously rejected for possessing high "fish" odors.

Textile Adjuncts Corp., 876 Pacific St., Brooklyn 38, N. Y.

Do you want more data? Write ◂ or use card on page 229; list D-112

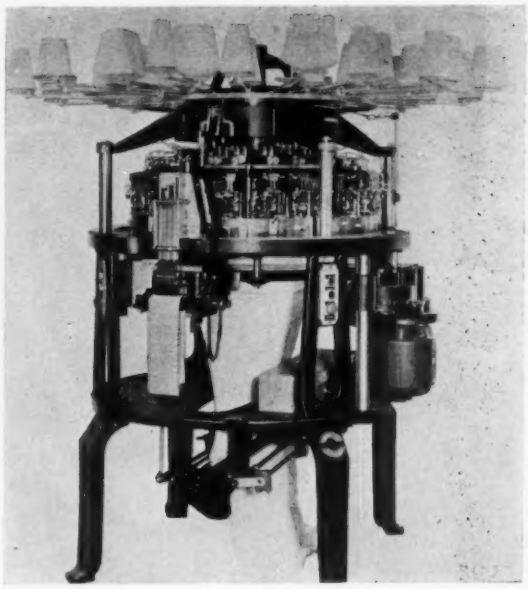
Multipurpose Jacquard Knitter Has New Control Stand and Vertical Drive Side

A new "Circular Jacquard" Model TAI-24, 32-inch diameter, 24-feed, fully automatic, multipurpose (interlock, plain, transfer, and rib) knitting machine has been announced.

This is a versatile, high-production machine, capable of producing true interlock (needle over needle) bodies with a 2x2, 2x1 or 1x1 true cuff (needle over needle); plain jersey bodies with 2x2, 2x1 or 1x1 true cuff; rib bodies with 2x2, 2x1 or 1x1 true cuff; simulated 2x2, 2x1 or 1x1 rib in any part of body with corresponding cuff. Any of the fabrics in combination with stripes and many other stitch combinations, all with knit-on true cuff, may be produced.

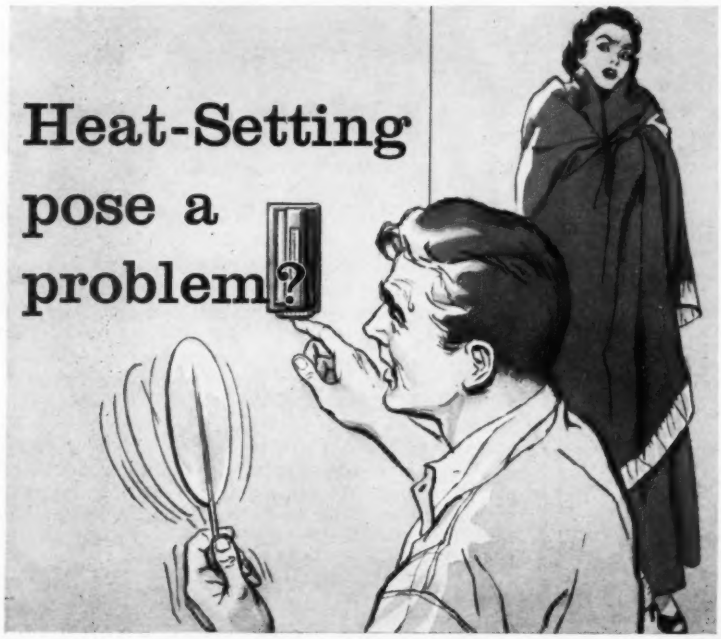
The machine can be equipped with either two- or four-color yarn changers. This permits the use of a separate nylon filament yarn drawthread completely independent of the body yarn, for quick easy body separations.

The new automatic control stand is positive in action, quickly adjusted, and easily serviced and allows as little as ½ inch of fabric opening or wasted fabric at the control mechanism.



New controls permit the cylinder and dial sections to be removed and returned in place on the race without disturbing the needle or cam set-up. This feature allows maintenance and cleaning with a minimum of downtime.

A vertical drive side allows the knitter complete ac-



Try this for size — Supranyl, Stein Hall's miracle size for nylon warps. It's unaffected by heat — and still it can be readily removed in your scouring bath. But that's not all! Supranyl, because of its unsurpassed affinity and adhesion to nylon yarns, offers you maximum protection against abrasion in weaving.

Find out now how Supranyl can save you many dollars in your operation. It requires no additives . . . stands greater dilution . . . and your initial cost is lower. Write today for more information, Textile Department TI-4

SUPRANYL Withstands Heat-Setting
. . . yet is Easy to Remove!

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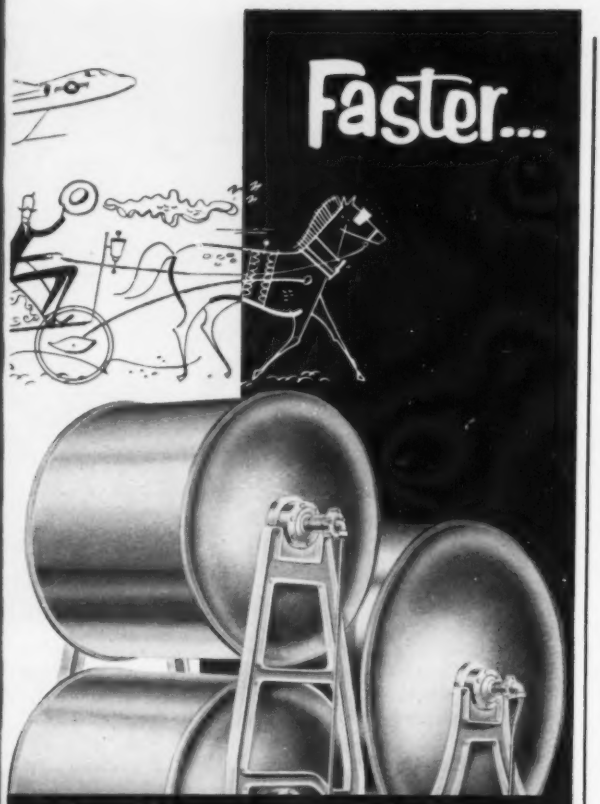


New Sims reverse dished head

HIGH PRESSURE SLASHER CYLINDER

Why jog along using conventional 12-lb. psig. working pressure cylinders in slashers or dryers for printers? Now you can get the new, far more efficient 50-lb. psig. working pressure Sims reverse dished head High Pressure Slasher Cylinders.

You can step up production almost incredibly with the new Sims reverse dished head High Pressure Slasher Cylinders. They can be installed in your present slasher framework, using journals and bearings already there.

Here are ASME Code-stamped cylinders which will carry a load much greater than conventional cylinders. Available in 5', 6' or 7' diameter by 60" through 72" faces. Stainless steel cover with ASTM-A Grade C, flange quality reverse dished heads.

for ECONOMY and QUALITY

Our modern and progressive metal-working shops, our skilled craftsmen, our know-how—these are guarantees of quality.

For custom tailoring of stainless steel, call, wire or write now.

Sims METAL WORKS

Fabricators Since 1928 WEST POINT, GA.

cess to any point around the machine and permits easy removal of the knitted fabric. The two-speed drive side and the motor are combined into one compact unit. Speed changes are completely controlled by an electronic control panel.

Jacquard Knitting Machine Co., G & Cayugah Sts., Philadelphia, Pa.

Do you want more data? Write ◂ or use card on page 229; list D-113

Treat Fiber and Reduce Ends Down, Increase Yarn Strength

Benefits to be derived by applying Maco X1 compound to cotton fibers, either natural or dyed raw stock, are: fewer ends down in spinning, greater yarn strength, prevention of mildew, elimination of rust spots on yarn, and production of more uniform yarn.

Non-toxic and no more inflammable than a mineral oil of comparable weight, this fiber treatment has 100 per cent active ingredients, with a solubility in water of 80 per cent. The product can be used on virgin cotton and/or cotton waste; i.e., card strips or comber noils.

This fiber treatment material can be sprayed on natural fibers or added to the last finishing bath for pressure dyed raw stock.

Similar products are available for treatment of nylon (Maco N2), rayon (Maco R3), and wool (Maco W4).

Universal Fiber Treatments Corp., P. O. Box 645, Macon, Ga.

Do you want more data? Write ◂ or use card on page 229; list D-114

Top Roll Suspension and Weighting Arrangement for New and Existing Spinning Frames

Outstanding characteristics of the recently announced Whitin "Unitrol" center suspension weighting unit and new top rolls for spinning frames are: simplicity, flexibility, and wide range of application — for all fibers up to 2" long. Specifically created for maximum efficiency, operation, and performance, the unit requires a minimum of attention, is easy for operators and fixers to handle, and results in improved spinning at lower cost.

A streamlined top arm holds the top rolls in correct, exact alignment and contains within it the spring weighting mechanism. By suspending the top rolls and using anti-friction construction for the front line and non-lubricated construction for the middle and back lines, the necessity for the use of oil here is eliminated.

Because of the over-all cleanliness in the drafting area and the smooth running characteristics of the rolls used, the yarn evenness and breaking strength are improved. Large operational cost savings are made by the reduction in picking and cleaning time required — some mills report up to 95 per cent reduction. Better spinning conditions result in labor savings through extension of operator assignments—mills report up to 30 per cent increase.

Whitin Machine Works, Whitinsville, Mass.

Do you want more data? Write ◂ or use card on page 229; list D-115

Equipment Briefs

Synthetic Belting for Aprons Has Long Life. For use in mills making and repairing aprons such as feed box aprons, garnett lapper aprons, picker feed table aprons, and all other apron applications where moisture is a problem, synthetic belting in roll form is available. Called Mainflex, it provides exceptionally long service, reducing machine downtime and replacement cost.

Robert A. Main & Sons, Inc., 257 Pascack Rd., Paramus, N. J.

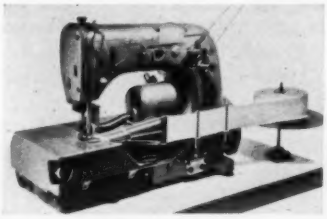
Do you want more data? Write supplier or use card on page 229; list D-201

Dye Bag Features Zipper Closure. The convenience of a top zipper closure is offered by a new nylon net bag which may be used for dyeing knit goods, etc. Zipper is resistant to oxidizing effects of chemicals and cleaning fluids; has brake-lock that prevents opening and loss of contents during processing. Knitted nylon net construction is run- and snag-resistant, yet light in weight for easy handling and storage.

Fablok Mills, Inc., Irvington, N. J.

Do you want more data? Write supplier or use card on page 229; list D-202

Machine for Attaching Button Stays to Knit Goods. The Style 51200 BV low throw, single-needle sewing machine is designed for attaching one-piece extension button stays to knitted undergarments made from light to medium weight materials. Combination of top roller feed and a thumbscrew adjusted off-set differential feed entirely eliminates any tendency of button stay to curl and enables operators to put on stays which are absolutely smooth and flat. 10 per cent faster than old model.



Union Special Machine Co., 400 N. Franklin St., Chicago 10, Ill.

Do you want more data? Write supplier or use card on page 229; list D-203

Water Cooler for Small Plants and Offices. Specifically designed for use where space is at a premium is a water cooler that weighs only 70 lb, measures only 12" x 12" x 36", and cools 2.1 gal per hr at room temperature of 90 F —enough for more than 60 office employees. No plumbing connections are required—water bottle is utilized.

Cordley & Hayes, 443 Fourth Ave., New York 16, N. Y.

Do you want more data? Write supplier or use card on page 229; list D-204

Resin-Fast Greenish Blue. Pyrasol Fast Blue FLL is a greenish blue, fast-to-light, direct color which combines very level dyeing properties with the maximum economy. Fabrics dyed with it show little or no change in shade or light-fastness after resin treatment.

Sandoz Chemical Works, Inc., 61 Van Dam St., New York 13, N. Y.

Do you want more data? Write supplier or use card on page 229; list D-205

Fork Truck Handles Loads in Confined Areas at Maximum Speeds. Compact design with a short wheelbase and 360-degree steering to permit maneuvering in narrow aisles and inside truck trailers and box cars is one feature of a new 3000-lb capacity Cargo-Scout fork truck. A unique device is provided on the steering mechanism to prevent steering wheel kick-back. On jobs where the operator must get on and off the truck frequently, stand-up control provides extra convenience. Worm drive, packaged unit assemblies, contactor controls, and a caster type

Sims
SHIRLEY HOODS
will pay for themselves

There's no reason to use horse-and-buggy hoods when the jet age Sims Shirley Hoods are available. Here are hoods which conserve heat for drying slash warps instead of dissipating it in the room.

The result is a 10 percent to 20 percent increase in production . . . which is why we say Sims Shirley Hoods will pay for themselves.

Made of stainless steel for long life . . . self-cleaning inside . . . equipped with our patented drip buckets that prevent condensate from dripping on cylinder and warp.

Shirley Hoods in the slasher room eliminate condensation on the ceiling in winter and keep temperatures down in summer.

for ECONOMY and QUALITY

Our modern and progressive metal-working shops, our skilled craftsmen, our know-how—these are guarantees of quality.

For custom tailoring of stainless steel, call, wire or write now.

Sims
METAL WORKS
Fabricators Since 1928
WEST POINT, GA.

trail axle are other features.

The Elwell-Parker Electric Co., 4250 St. Clair Ave., Cleveland 3, Ohio.

Do you want more data? Write supplier or use card on page 229; list D-206

New Limit Switches. Two new limit switches are available for general purpose applications. One, the Type PLS lever-operated limit switch, may be adapted for clockwise, counterclockwise, or universal operation by the turn of a screw selector. A companion switch, the Type PRS, is actuated by depressing a push rod.

Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa.

Do you want more data? Write supplier or use card on page 229; list D-207

Filter Has Rapid Self-Cleaning Feature. The Hydra-Shoc is a tubular filter useful for any water or chemical purification task. It builds up air pressure at the end of the filtering cycle and uses the pressure for a sudden back-surge to clean the filter. No extra devices are used; the filter shell itself acts as the pressure chamber and the arrangement of regular valving provides highly efficient, convenient filtration at a relatively low price.

Industrial Filter and Pump Mfg. Co., 5916 Ogden Ave., Chicago 50, Ill.

Do you want more data? Write supplier or use card on page 229; list D-208

Measure Processing Tensions up to 20 lb. A new Tension Meter to safely measure tensions up to 20 lb during processing of wires, cables, coils, cords, and other filamenteous materials is available. Lever-and-helix arrangement assures prolonged, smooth operation, even under severe mill conditions.

Tensitron, Inc., Harvard, Mass.

Do you want more data? Write supplier or use card on page 229; list D-209

Easy-to-Install Pipe Jacketing. A new development in pipe insulation jacketing for the protection of hot or cold insulated lines provides greater efficiency, wearing qualities, and ease of installation. Preformed polyethylene called "Pip-Jac," it resists damage from heavy blows and will not chip, flake, rust or corrode. No painting is necessary, and the material will never become brittle. Precut to 6' lengths and preformed to correct diameters, Pip-Jac is merely fitted around the insulation, after which it springs shut by itself. Longitudinal seams are fastened with staples, using an ordinary stapler; circumferential seams are sealed quickly with Pip-Jac adhesive tape. Fittings are protected by coating with special adhesive tape. One man can completely jacket more than 200 lineal feet of line in 8 hr.

Pip-Jac Co., 295 Beverly Rd., Pittsburgh 16, Pa.

Do you want more data? Write supplier or use card on page 229; list D-210

Fluorescent Lamp Provides Outdoor Light Inside. Super Delux 45, a new fluorescent lamp, emits light with the full spectrum color rendition found in sunlight. It accurately reveals every color of the rainbow, from deepest blue through glowing yellow to gayest red; emphasizes delicate variations in hues. Light emitted is cool white in appearance.

Duro-Test Corp., North Bergen, N. J.

Do you want more data? Write supplier or use card on page 229; list D-211

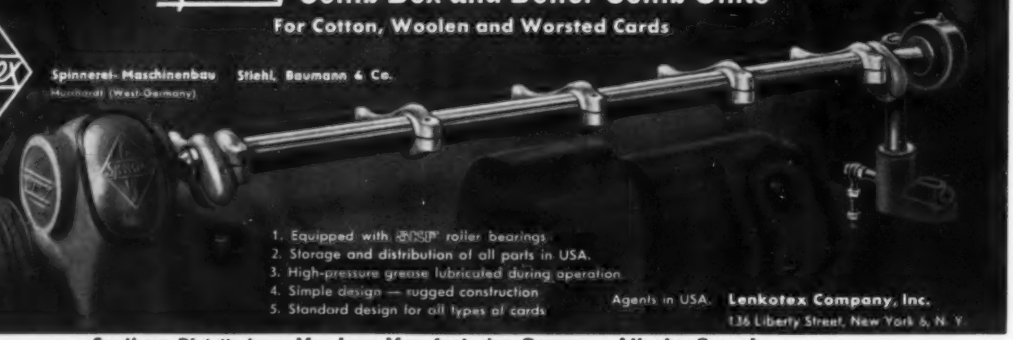
Spintex Comb Box and Doffer Comb Units

For Cotton, Woolen and Worsted Cards

Spintex

Spinnerei-Maschinenbau Stiehl, Baumann & Co.

Hurlhardt (West-Germany)



1. Equipped with SKF roller bearings
2. Storage and distribution of all parts in USA.
3. High-pressure grease lubricated during operation.
4. Simple design — rugged construction
5. Standard design for all types of cards

Agents in USA. Lenkotex Company, Inc.

136 Liberty Street, New York 6, N. Y.

Southern Distributors: Meadows Manufacturing Company, Atlanta, Georgia.

Precisioned to Size

Precisioned for Concentricity

Precisioned for YOUR Spindles

PRECISION®

N·E·B

BOBBINS

The bobbin that gives you the best run for your money. Want samples? Write us!

Makers of PRECISION Automatic Loom Bobbins

NEW ENGLAND BOBBIN & SHUTTLE CO.

33 Crown Street

NASHUA, N. H.

PINS and LAGS

Special pins and pin arrangements produced for processing wool, cotton, synthetics, jute, sisal, flax, mill waste and shoddy.

B Co.

Volume production by precision methods permits attractive prices on all types. Prompt deliveries. W. H. Bagshaw Co., Inc. (Est. 1870) 62 Pine St., Nashua, N. H.

by BAGSHAW

Blue Green Dye for Cotton and Rayon. National Solantine Blue Green BFL is a nondusting, light-fast direct dye producing on cotton and rayon bright bluish-green shades, which may be discharged to an excellent white with neutral and alkaline discharge pastes. It exhibits excellent fastness to light, rubbing, alkalis, dry cleaning, sea water and water; very good fastness to washing and perspiration; and good fastness to acids, mercerizing, and hot pressing. This product is suitable for coloring cotton carpet yarns, hosiery, upholstery, suitings, and materials to be rubberized.

National Aniline Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.

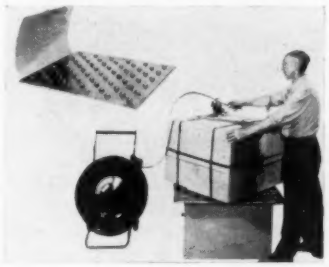
Do you want more data? Write supplier or use card on page 229; list D-212

Five New "Celaperm" Colors. Five brilliant new Celaperm colors of unprecedented intensity and clarity have been announced: Persian Turquoise, a vivid, jewel blue with a greenish cast; Ruby Scepter, rich and warm, subtly touched with blue; Orange Sapphire, a clear yellow orange; Imperial Jade; and Crown Gold, a bright strong shade in the pure yellow family.

Celanese Corp. of America, 180 Madison Ave., New York 16, N. Y.

Do you want more data? Write supplier or use card on page 229; list D-213

Strapping Table Speeds Packaging. The Signode strapping table enables the operator to stand in one position while rotating heavy containers for packing or strapping. It provides a valuable safety factor because these heavy containers are handled with a minimum of effort—eliminating the possibility of strains caused by manhandling the package for a right angle turn. Table top may be mounted on a permanent or portable base or in conveyor lines.



Signode Steel Strapping Co., 2600 North Western Ave., Chicago 47, Ill.

Do you want more data? Write supplier or use card on page 229; list D-214

New d-c Motors and Generators. A completely new line of direct-current motors and generators, the Kinamatic line, is designed for versatility of application and performance. Speed is adjustable by armature voltage control, field strength control, or any combination of both. Other features: drip-proof enclosure, guaranteed 15% service factor, faster speed of response, easier maintenance.

General Electric Co., d-c Motor and Generator Dept., Erie, Pa.

Do you want more data? Write supplier or use card on page 229; list D-215

Pressure-Sensitive Non-Slip Fabric. Now available in roll form for use on loom beam barrels, cloth rolls, etc., is Type B "Safety-Walk" brand Non-Slip Fabric (mineral coated type) which is supplied with a pressure-sensitive adhesive film backing. It sticks at a touch to all smooth, clean, dry surfaces, and is ready for use immediately after application—no waiting time necessary.

Minnesota Mining & Mfg. Co., St. Paul 6, Minn.

Do you want more data? Write supplier or use card on page 229; list D-216

New Cabinet Dial Scales. Four new features are in-

What is most important to you when you nap COTTONS . . .

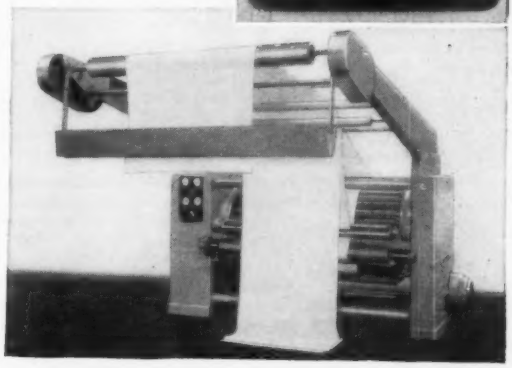
Quality or Quantity?

Quality and quantity are both part and parcel of Gessner Hi-Torc napping — the result of MAXIMUM RAISING ACTION from the very first run. With transmission of power never before so swiftly and accurately directed, the Hi-Torc Napper opens the fabric more quickly and proceeds to nap more evenly in less time, than you would believe possible. Slip filling is eliminated, the nap is less wild, less shaggy, without stray tufts here and there to mar the smoothness of the face.

From one control panel, you can duplicate exact napping results again and again, or you can vary them at will. And on one and the same Hi-Torc Napper, you can break, raise, smooth and finish at several times the production rate you would think of as normal.

We would like to prove these claims. May we?

Gessner Hi-Torc Napper and central control panel.



DAVID GESSNER CO.

WORCESTER, MASS.

Canadian Representative: W. J. Westaway, Montreal, Quebec; Hamilton, Ont.

Gessner takes the guesswork out of napping.

Herbert
OXY COLD BARS

Static is a time-waster that eats up profits. You can stop this leak and increase the efficiency of your plant, quickly, *permanently* and at *low* cost!

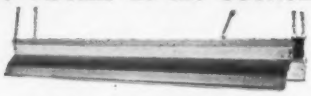
All you need are *Herbert Oxy Cold Bars* installed on your machines. They provide safe, constant relief from the slow-downs and production delays caused by Static.

Thousands of satisfied users attest to the efficiency of OXY COLD BARS. *You will too!* Just send us your machine specifications. We'll send you a complete diagnosis and proposal, without obligation.

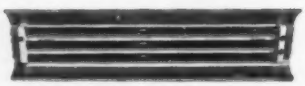
HERBERT PRODUCTS INC.
74-34 JAMAICA AVE. • WOODHAVEN 21, N. Y.

Check potential dye streaks at the SOURCE

with the new IDENTA-LITE*



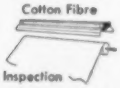
Special high-intensity reflector finish



3—48" ultra-violet lamps

Immaturity
Cat-eye Cotton
California Cotton
Fibre Contamination
Oil Spots

Cotton Fibre



Cloth Inspection

Hosiery Inspection

Excellent for dyestuff and chemical identification and adulteration

The powerful ultra-violet rays of the Identa-Lite instantly show up almost all of the potential causes of dye streaks . . . from the bale to cloth inspection. Various defects produce characteristic reactions under this light, thus making it easy to correct each at its source.

For Instance: Each oil used in opening, carding, spinning, weaving, and finishing can be typed and matched with oil spots on finished goods, thus making it possible to determine exactly where the spots originated.

Complete with base, tubes, reflector, starters, transformers, and hanging chains—ready for use on 110V AC line. Only $75.00 F.O.B., Charlotte.

Send us your order today. Satisfaction guaranteed.

*Trade Name

CHARLOTTE CHEMICAL LABORATORIES, INC.
MANUFACTURING CHEMISTS AND CONSULTANTS
1122 So. Boulevard Charlotte, North Carolina

corporated in the F-M Floaxial cabinet dial scales which are designed to eliminate possible human errors and insure precision performance despite the most rugged operating conditions: a direct reading dial, a full swivel head, a cage-type central column construction, and a controlled-speed dash pot.

Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Ill.

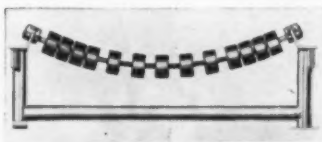
Do you want more data? Write supplier or use card on page 229; list D-217

Sewing Machine Attachment Eliminates Puckering. A new, inexpensive, variable speed rotary feed attachment for sewing machines, called "Equi-Feed," maintains an even feed along both the top and bottom layers of fabric during sewing, thereby preventing puckering, gathering or twisting of the fabric. Top feed can be varied by operator to allow for pulling or retarding of fabric as needed. In addition to increasing production of less skilled operators, the attachment frees the operator's hands to guide work through the machine. Created particularly to facilitate production on synthetics such as Dacron, Orlon, nylon, acetate, etc., the device is especially advantageous with the use of binding and folding attachments.

Dura-Bac, Inc., division of Sewation Inc., 808 Broadway, New York 3, N. Y.

Do you want more data? Write supplier or use card on page 229; list D-218

Flexible Idler Cuts Belt Conveyor Maintenance. For all belt conveyor operations in which bulk materials are handled with belts from 18" to 42" wide is the Joy "Limberoller." Featuring resilient discs on a flexible steel cable, the idler has only two bearings which are up out of the dust and dirt. It conforms to the load, cushions and guides belt, needs no lubrication. The mechanism resists dust, abrasion, corrosion, and material build-up, thus avoiding fouled bearings; minimizes chemical and mechanical wear. Weighs 2/3 less than a conventional steel idler; is locked by a simple cotter key into special lightweight stands for easy installation and removal. No cover sheets are needed. Two types of stands are available.



Joy Mfg. Co., Oliver Bldg., Pittsburgh 22, Pa.

Do you want more data? Write supplier or use card on page 229; list D-219

Lift Truck Attachment Eliminates Pallets. For rapid handling of cartons and packages without pallets, the new "Cart-N-Grab" for Hyster Models UC-30 and YC-40 3000-lb and 4000-lb capacity lift trucks is recommended. Arms of the attachment will accommodate packages ranging in width from 22⅛" to 70¾". Holds entire group of packages firmly, eliminating any spillage or damage.

Hyster Co., 2902 N. E. Clackamas St., Portland 8, Ore.

Do you want more data? Write supplier or use card on page 229; list D-220

Drum Storage Racks. When "Rak-A-Tier" drum storage racks are utilized, more drums can be stored in a given area, accessibility is direct to each drum, direct dispensing from drums can be practiced if desired, efficient housekeeping is automatic, varying drum sizes are readily handled in the same rack, and lower operating costs result from less labor needed to handle inventory.

Artco Corp., 1110 Bethlehem Pike, Flourtown, Pa.

Do you want more data? Write supplier or use card on page 229; list D-221

New Ceiling Diffuser. The Model BP Venturi-Flo ceil-

ing diffuser features a full variation of air patterns from horizontal to vertical and is capable of driving hot air to the floor from mounting heights up to 50' even with temperature differentials as high as 40 F. Greater projection of warm air is possible with lower temperature differentials. Because it is completely adjustable, and capable of long vertical throws, it is ideal for use in heating, ventilating, and air conditioning applications in manufacturing areas, auditoriums, etc.

Barber-Colman Co., Dept. 766, Rockford, Ill.

Do you want more data? Write supplier or use card on page 229; list D-222

Lift Makes Drum Handling Easy. A new, improved drum lift enables one man to handle steel and fiber drums and acid carboys safely and in less time. Lifting power is supplied by a foot-operated hydraulic jack. Unit will not turn over. Allows user to pour, stack, or rotate to mix contents. Brakes on drum lift-arms hold drum at any angle.

Sterling, Fleischman Co., Broomall, Pa.

Do you want more data? Write supplier or use card on page 229; list D-223

Rigid Plastic Pipe. Two types of rigid unplasticized PVC (polyvinyl chloride) pipe are available from one manufacturer: a normal impact grade with high chemical resistance and a high impact grade with slightly less chemical resistance but much greater strength. They are designated Carpenter PVC No. 1 and Carpenter PVC No. 2 respectively. Threaded and socket types of fittings are available. Easily fabricated on standard metal and wood working equipment, both types of pipe can be formed, sawed, threaded, machined, hot gas welded, and solvent cemented.

Alloy Tube Div., The Carpenter Steel Co., Union, N. J.

Do you want more data? Write supplier or use card on page 229; list D-224

Material Level Indicator-Control. An improved type material-level indicator suitable for all dry, pulverized, fine, crushed or granular materials will function positively at bin temperature up to 300 F. Unit can also be adapted for use with corrosive materials, with all exposed parts built of stainless steel. May be mounted either vertically or horizontally. When incoming material reaches level of paddle wheel, device flashes signal either to operator or directly to feed supply.

Fuller Co., Catasauqua, Pa.

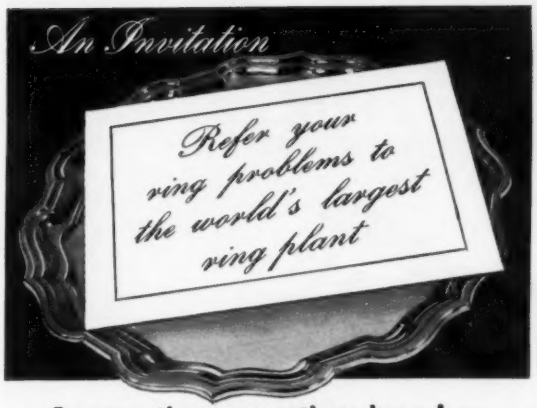
Do you want more data? Write supplier or use card on page 229; list D-225

Green-Yellow Slide Rule Saves Eyes. New light-alloy slide rules made in green-yellow eliminate violet and red rays which focus in front of and behind retina. Green-yellow shade coincides with optimum sight point of the spectrum, cuts eyestrain, blurring, and errors in reading. Non-corrosive, non-rusting metal construction eliminates warping, swelling, and binding. Now made in 6" and 10" trig, log-log standard rules, or in rules made to special order.

Pickett & Eckel, Inc., 1109 South Fremont Ave., Alhambra, Calif.

Do you want more data? Write supplier or use card on page 229; list D-226

Speed Machinery Installation with this Leveling Mount. Now available to facilitate installation of textile ma-



Constructive suggestions based on world's most complete line of rings

Ring problems are also opportunities. Our aim in solving your ring problem is not merely an adequate solution, but to put you on a new high standard of production and quality control. Let your DIAMOND FINISH man put the experience of 83 years ring specialization to work for you.

WHITINSVILLE (MASS.) SPINNING RING CO.
DIAMOND FINISH
Makers of Spinning and Twister Rings since 1873

Rep. for the Carolinas: W. K. SHIRLEY, 25 Oak St., Belmont, N. C.
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TEXTILE PEOPLE WORKING *Safely and Efficiently* **WITH ELECTRIC FEEDRAIL®**

ELECTRIFICATION FOR MONORAIL SYSTEMS, CUTTING ROOMS, SEWING ROOMS, ETC.

Hundreds of textile manufacturers have chosen Feedrail for its safety and efficiency in distributing electric power to moving or stationary equipment. The modern Feedrail Trolley Busways eliminate the problems and troubles of open wiring, accidental contact, broken or frayed connections, long trailing cables, etc. – give you electric power where you want it, when you need it!

Feedrail's prefabricated overhead track sections and movable trolley outlets give your plant time and money-saving flexibility – easier rearrangement of sewing machines – faster, more accurate cutting operations – safer, more dependable power for monorail materials handling in your receiving, production, staging and shipping areas, etc.

WRITE FOR YOUR FREE COPY OF "THE FEEDRAIL STORY." ADDRESS DEPT. 22.

Never Becomes Obsolete

FEEDRAIL TROLLEY BUSWAYS
FEEDRAIL CORPORATION
Subsidiary of Russell & Stoll Company, Inc.
125 Barclay Street • New York 7, N. Y.
Specially qualified representatives in principal cities.

...Stop Leakage!.....

use SEAMLEX

THE SEAMLESS FLEXIBLE ALL-METAL HOSE

SEAMLEX Hose Ensures Uninterrupted Production

. . . because SEAMLEX is made of extra large, GENUINE SEAMLESS bronze tubing, helically corrugated by the exclusive SEAMLEX ROLL-IN PROCESS. Sturdily constructed throughout . . . Rugged reinforced end connections for added safety.

Largest range of stock sizes in bronze hose: 1/16" I.D. to 8" I.D. inclusive; most sizes also available in steel, stainless steel, monel and aluminum.

Write today for . . . FREE Bulletin #955 on SEAMLEX Quality Hose and Rotary Joints

SEAMLEX COMPANY, INC.

41-23 24th STREET, DEPT. G. LONG ISLAND CITY 1, N. Y.

● *Since 1928, SEAMLEX Products are QUALITY Products.* ●

You're Completely Covered WITH A CHAPMAN STATIC ELIMINATOR

Guaranteed STATIC ELIMINATION on

CARDS
GARNETTS
WARPERS
CREELS
SLASHERS
NAPPERS
DRAWING FRAMES
Etc.

TESTED AND APPROVED BY UNDERWRITERS LABORATORIES

— REDUCE WASTE — IMPROVE QUALITY — — INCREASE PRODUCTION —

WRITE FOR FULL INFORMATION AND NAME OF NEAREST AGENT

The Portland Company

22 FORE STREET ★ PORTLAND, MAINE

MANUFACTURING & APPLYING ELECTRONIC STATIC ELIMINATORS SINCE 1904

chinery and equipment is a double-purpose leveling mount which not only makes possible the leveling of machinery without the use of shims or lagging to the floor, but also reduces transmission of machine noise, shock, and vibration. Unit consists of a metal plate with an Isomode pad cemented to it, a threaded bolt, flanged leveling nut, and lock-nut.

MB Mfg. Co., 1060 State St., New Haven 11, Conn.

Do you want more data? Write supplier or use card on page 229; list D-227

Motor Base Maintains Proper Drive Belt Tension. The "Tens-A-Matic" base for motors of all sizes up to 200 hp automatically takes up belt stretch and automatically absorbs starting loads. Cuts belt changing time and eliminates motor or belt realigning.

Murray Equipment Co., Inc., 11350 Schaefer, Detroit 27, Mich.

Do you want more data? Write supplier or use card on page 229; list D-228

Double-Duty Caster. A new four-position swivel lock caster is available in several sizes for medium and heavy duty service. Plunger-type lock is easily accessible and positive in action, making a swivel caster into a stationary model. Combination of flexibility and easy steering is readily obtained by use of this caster. Available with all types of treads.

Darnell Corp., Ltd., Downey, Calif.

Do you want more data? Write supplier or use card on page 229; list D-229

New Condensate Pump. New Sarco Type S condensate pumps, close-coupled and bronze-fitted, are furnished with 12 gal cast iron receivers. Capacity, 2,000 to 8,000 sq ft EDR and 3450 rpm. Easy to convert from single to duplex. Features include low 7½" inlet, mechanical seal, and dynamically balanced enclosed bronze impeller. No sub-base required. Easy to take apart for inspection.

Sarco Co., Inc., Empire State Bldg., New York 1, N. Y.

Do you want more data? Write supplier or use card on page 229; list D-230

New Books

The first three parts of a new book entitled *Practical Textile Chemistry* deal with wool. Part 1, the structure and properties of wool, is concerned with the growth, purification, morphology, constitution, and molecular structure. Wet processing of wool is the subject of the other two parts. Part 4 lists special tests for animal fibers, silk, cotton, bast fibers, and man-made fibers; it also gives tests for mercerized cotton and crease resistant fabrics, lignocellulosic fibers, and several fiber mixtures. Chemical Publishing Co., Inc., 212 Fifth Ave., New York 10, N. Y. Price, $4.75.

An enlarged edition of *Fabric Facts* contains information about fibers, weaves, and fabric finishes, and includes generic names and trademarks for man-made fibers. Contents listed alphabetically for easy reference. Price, $1.00 from Fairchild Publications, Inc., 7 East 12th St., New York 3, N. Y.

The 3rd edition of its *Accident Prevention Manual for Industrial Operations* has just been published by the National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill. (price, $13.50). Designed as the basic text for the safety man's shelf, it includes all the information needed to organize a comprehensive safety program and keep it going. Also, there are many informative chapters covering specific types of hazards found in most industrial operations.

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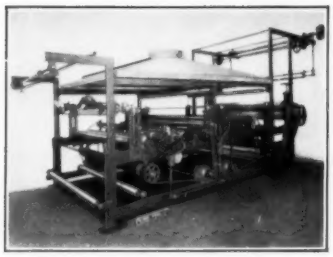

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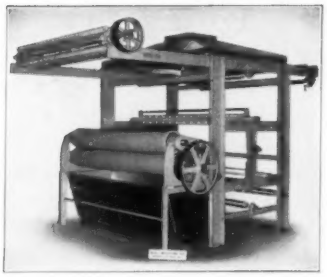

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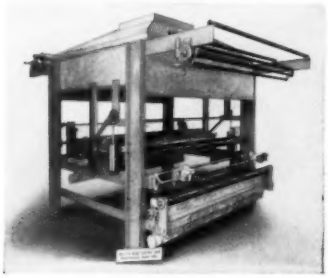

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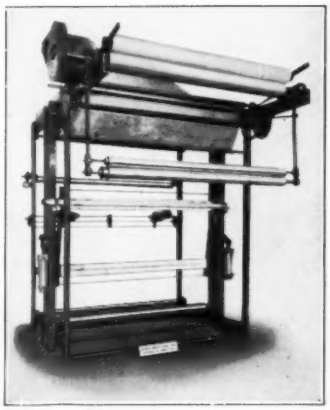

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Lane Style 20 DOFFING BASKET

For a long-wearing doffing basket to fit the individual requirements of your mill insist on the Lane Style 20. The tough, snag-proof body, built over a strong, resilient frame, gives low-cost, dependable service because of these exclusive Lane features:

- Light, strong frame of special spring steel provides resistance to permanent bending.
- Longitudinal frames are embedded full length in cross-braced shoes of close-grain hard wood.
- Lane duck, woven to exacting requirements is sewn into tough body with completely smooth inside surfaces.
- Specially tanned binding leather and short, tight stitches of long-staple cotton thread for extra wear.

To be SURE of the best,
INSIST ON *LANE Style 20 Canvas Doffing Basket*

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W. T. Lane & Bros., Inc., Poughkeepsie, New York

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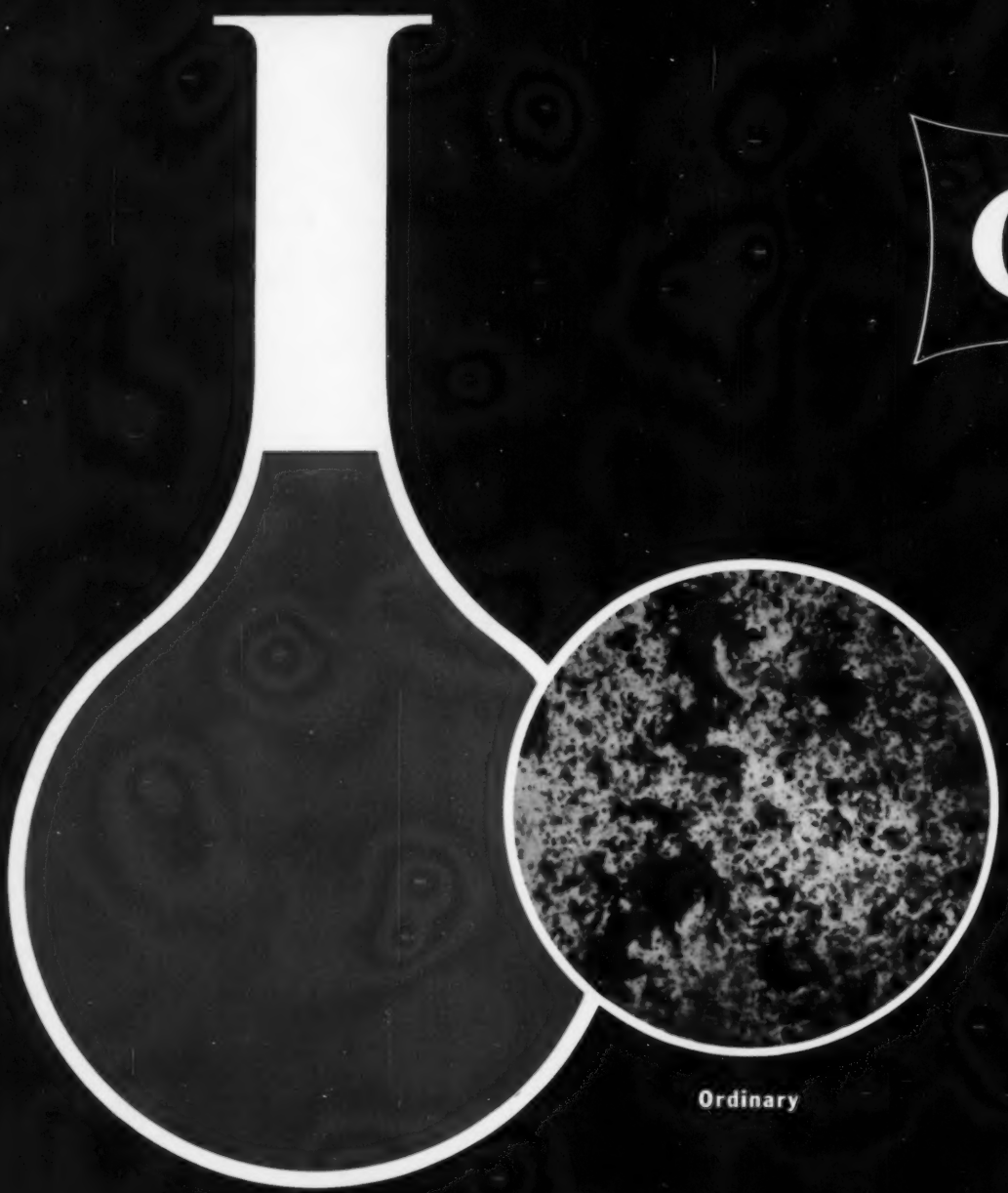

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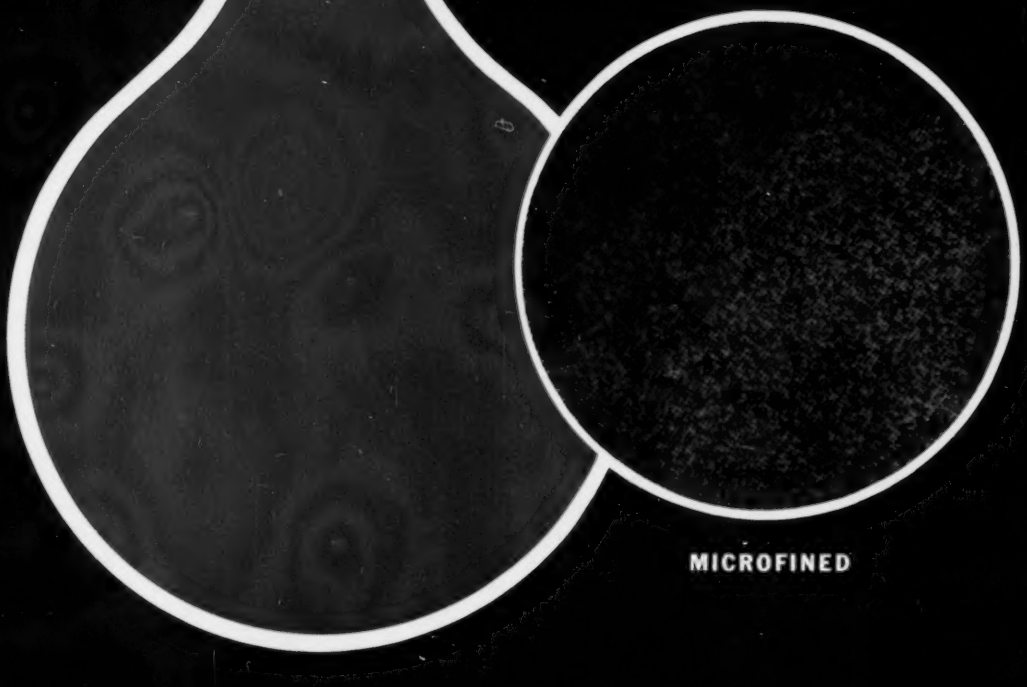
The eye cannot tell which is MICROFINED but the superfine and uniform particle size and perfection of dispersion of CIBANONE VAT DYES are revealed by the microscope, and are evident in SUPERIOR PLANT PERFORMANCE.



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The new Elljean Mill of Alice Manufacturing Company, Easley, S. C., has been called the most modern bale-to-fabric mill in America. The 5½-acre plant houses 180 spinning frames, 4,300 spindles, and 1,200 looms, operating at 174 ppm. About 100,000 lbs. of 39-inch, 80 x 80 print cloth can be produced each week. Two West Point AIR-DRI* Slashers keep production on the move. Beams are doffed in less than a minute.

MODERN SLASHERS FOR HIGH-SPEED PRODUCTION

West Point AIR-DRI* Slashers are bringing modern slashing to America's high-speed textile operations. *Higher production* . . . more for the money and a bonus in saved floor space and labor. *Lower maintenance costs* . . . no rotating steam joints . . . no gear or sprocket drives on the drying section. A *cooler, more comfortable slasher room* . . . radiation is reduced by insulating panels enclosing the AIR-DRI* Section. *Reduced shedding* and *tearing* action at the head end. *No cylinders* . . . no sticking. *No gas heat* . . . no scorched warps. West Point AIR-DRI* Slasher is applicable to cotton, spun synthetics, worsteds, and worsted and synthetic blends. For warps 54½" or 72" wide.

Full information on AIR-DRI* Slashers and the COMPLETE LINE of WEST POINT SLASHERS will be supplied promptly on request.

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AIR-DRI* Slasher
Callaway Sample Slasher
Hi-Speed 4-Cylinder Slasher
Equi-Tension Creel
Multi-Cylinder Slasher
CYL-AIR* Slasher
Standard 2- and 3-Cylinder Slashers
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Use this opportunity to keep abreast of new information dealing with machinery, equipment, supplies and services available to your mill.
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4-1 TIME RECORDER TOTALIZER. Brochure gives details on how complete, accurate, documented production data may be obtained on any machine, process or operation. Write for Brochure "D," Standard Instrument Corp., Div. of Heat-Timer Corp., 657 Broadway, New York 12, New York.

4-2 REBUILDING SERVICE. Pamphlet illustrates why Yeomans rebuilding service assures new loom performance. Rebuilding may be done either at mill or in Yeomans' plant in Spartanburg. Write Yeomans Textile Machinery Co., P. O. Box 1661, Spartanburg, S. C.

4-3 CONDENSATE AND VACUUM PUMP. 28-page bulletin shows large cut-away illustrations, pump selection guide and installation diagrams of Sarco condensate and vacuum pumps. Write Sarco Co., Inc., Dept. P, Empire State Bldg., New York 1, N. Y.

4-4 RATCHET DRIVE LUBRICATOR. Technical reference sheet describing an automatic ratchet-driven lubricator is offered. Describes in detail the key features, includes photographs. Write Bijur Lubricating Corp., 151 W. Passaic Avenue, Rochelle Park, N. J.

4-5 ETHANOLAMINES. Book describes monoethanolamine, diethanolamine, and triethanolamine, listing their applications, chemical and physical properties, physiological properties, etc. Write Nitrogen Division, Allied Chemical and Dye Corporation, 40 Rector St., New York 6, N. Y.

4-6 POLYETHYLENE FOR PACKAGING. Booklet describes why 16 leading manufacturers of soft goods are now packaging their products in polyethylene film. Write Bakelite Company, Flexible Packaging Materials Division, 30 East 42nd Street, New York 17, New York.

4-7 ROSS INDUSTRIAL DRYERS. Color bulletins describe Ross Dryers used in all industries for drying and curing. Gives complete story, including pictures, schematic drawings, etc. Write J. O. Ross Engineering Corp., 444 Madison Avenue, New York 22, N. Y.

4-8 PNEUMATIC LAP CONTROL. Bulletin gives principle of operation and list of advantages from standpoint of production, quality control and maintenance. Write Livingston and Haven, Inc., P. O. Box 808, Charleston, S. C.

4-9 ROTARY JOINT FOR STEAM, WATER, OIL. Bulletin tells how Seamlex Rotary Joints ensure uninterrupted production, minimum power consumption and lowest maintenance. Write Seamlex Corp., 41-23 24th St., Dept. F., Long Island City 1, N. Y.

4-10 ELECTRIFICATION FOR MATERIALS HANDLING. Booklet entitled "The Feedrail Story" tells how Feedrail's prefabricated overhead track sections and movable trolley outlets provide plant time and money-saving flexibility. Write Feedrail Corp., Dept. 22, 125 Barclay Street, New York 7, N. Y.

4-11 HOW TO SELECT LIQUID METERS. Helpful free bulletin covers meters for brines, soap solutions, hot and cold water and other chemical solutions that can be handled by composition bronze meters. Write for bulletin 566UTI, Neptune Meter Co., 19 W. 50th St., New York 20, N. Y.

4-12 AIR LINE FILTERS. Catalog describes various air line filters for removal of oil, corrosive moisture, abrasive pipe scale, rust, and other solids from compressed air lines. Write for Catalog #700, C. A. Norgren Co., 3450 So. Elati St., Englewood, Colo.

4-13 NAPTHOL COLORS FOR DISCHARGE GROUNDS. Booklet describes advantages and gives formulations for Napthol colors recommended for discharge grounds. Available in a full range of shades in orange, red, bordeaux, navy blues, brown and black. Write Blackman-Uhler Co., Spartanburg, S. C.

4-14 ALUMINUM SECTION BEAMS. Information available on advantages of Hayes beams. Includes prices and delivery schedules. Write Hayes Industries, Inc., Jackson, Mich.

3 Features designed for LOW COST DYEING

1 *This Dyebox is Fully Enclosed*

— to keep heat and moisture where they belong, in the box; to save fuel, steam, water and dyestuffs; . . . to end dyehouse fog; to increase production per man hour; to give you better work.

2 *This Dyebox is Stainless Steel*

. . . to clean in seconds with a quick rinse; . . . to eliminate boil outs; . . . to end discoloration of fabric; . . . to change from dark to light runs in a few seconds; . . . to give you more runs per day at lower cost.

3 *This Dyebox is Blickman Built*

. . . to be as accessible as an open box with none of the disadvantages; . . . to give dyers every design feature for speedier loading, heating, lacing, unloading and changeover; . . . to assure trouble free operation for many years.

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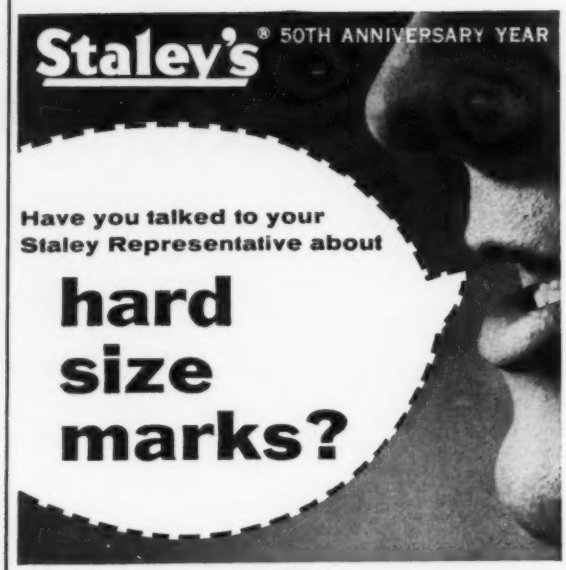

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You should! *Because* your Staley Textile Representative is an expert technician in *your* field. He understands your problems . . . and he has the know-how to help you solve them. Why not put him to work for you on profit-stealing problems right now? There is no charge for his services, of course . . . it's his job to help you. Call him at the Staley office in your area.

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GENERAL, ECONOMICAL MANAGEMENT . . .

8. TEXTILE RESEARCH AT AMERICAN VISCOSE — Color booklet tells the story of the Textile Research Department which is, in effect, a many-sided textile mill. — AMERICAN VISCOSE CORP., 350 Fifth Avenue, New York 1, N. Y.

11. "WHERE DID THEY HIT PAY DIRT?" — Booklet describes how many manufacturing concerns have come South and why they found it profitable. Gives industrial advantages of the Southeast. Write CENTRAL OF GEORGIA RAILWAY, Industrial Development Department, 501 Rhodes Haverty Bldg., Atlanta 3, Georgia.

15. NEW INDUSTRIAL FIBER — Technical bulletin now available on Fortisan-36, new industrial fiber by Celanese. Uses text, charts and diagrams to present technical properties, characteristics and recommendations for processing. — TEXTILE SALES DEPARTMENT, Celanese Corporation, Charlotte, N. C.

17. A FAIR DAY'S PAY AND IN RETURN A FAIR DAY'S WORK — 8-page booklet outlining the services offered to industry for the proper utilization of labor, material and equipment, and the resulting advantages for both labor and management. — AMERICAN ASSOCIATED CONSULTANTS, INC., 250 Park Ave., New York, N. Y.

18. RAYON—MILE BY MILE — Color booklet describes how Industrial Rayon Corporation produces rayon mile by mile which is perfect inch by inch. — INDUSTRIAL RAYON CORP., Fifth Ave., New York 18, N. Y.

22. THE WONALANCET WAY — Is the title of an editorial booklet published five times a year and deal with current problems which appear worthwhile at the time they are written. — WONALANCET COMPANY, 128 Burke St., Nashua, N. H.

23. TEXTILE STEELS — Six booklets are available from Atlantic Steel Company which will prove valuable to persons concerned with the purchase or use of steel. — ATLANTIC STEEL CO., P. O. Box 1714, Atlanta 1, Ga.

24. THE CHEMSTRAND NYLON STORY — Booklet describes one of the greatest industrial ventures of the textile industry in the South — the birth and growth of Chemstrand Nylon. — CHEMSTRAND CORP., 350 Fifth Ave., New York 1, N. Y.

PLANT & PLANT MAINTENANCE . . .

102. "TANK TALK" — Sixteen page booklet of illustrations showing various types of elevated steel tanks constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels; cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said — R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

103. HUMIDIFICATION, EVAPORATIVE COOLING — Bulletins available displaying AMCO automatic self-cleaning atomizers, controls and evaporative cooling equipment. — AMERICAN MOISTENING CO., 260 W. Exchange St., Providence, R. I.

106. FINNELL COMBINATION SCRUBBER-VAC —Illustrated literature gives complete specifications and describes various methods of combination-machine-scrubbing, including method recommended for cleaning oily floors. — FINNELL SYSTEMS, INC., 1300 East St., Elkhart, Indiana.

111. CERTIFIED CLIMATE AIRCHANGER SYSTEM — Bulletin describes Certified Climate Airchanger System as used with direct humidification for partial or complete air conditioning. — PARKS-CRAMER CO., Fitchburg, Mass.

114. PENETRATING WOOD FINISH — Bulletin gives applications, uses and application specifications of floor seals for textiles. — E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIVISION, Wilmington, Delaware.

115. FOAMGLAS — Illustrated brochure features information on how the use of Foamglas cellular glass insulation solved the severe insulating problems of leading users. — PITTSBURGH CORNING CORP., One Gateway Center, Pittsburgh 22, Pa.

116. STOP CORROSION — Details on speed Rex paint for metal wood and concrete maintenance solving condensation problems. — TRUSCON LABORATORIES, Box 69, Milwaukee Junction, P. O. Dept. T, Detroit 11, Mich.

117. CLEANING SYSTEMS — Booklet entitled "Certified Climate and Cleaning Systems" gives latest information on system. Products and uses fully discussed with two story layout of Certified Climate central station air conditioning system. — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

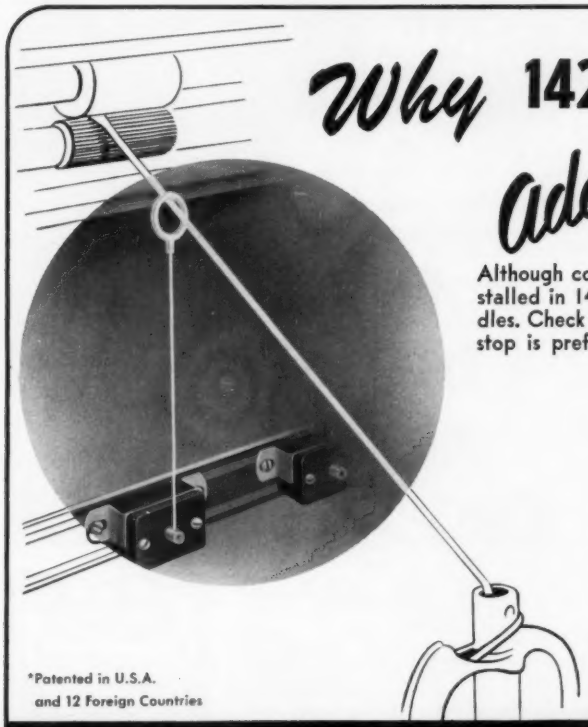
118. LIQUIDATION INFORMATION — Information available on how to profitably dispose of mill properties being liquidated. Tells how Comer will buy, sell and relocate industry in your former site. — COMER MACHINERY CO., 684 W. Peachtree St., Atlanta, Ga.

120. STAINLESS STEEL FOR TEXTILES — 40-page booklet gives applications and advantages of stainless in textile plant equipment of all types. — ALLEGHENY LUDLUM STEEL CORP., Dept TI-71, Oliver Bldg., Pittsburgh 22, Pa.

122. TEXTILE MILL CLEANING GUIDE — Useful book by Oakite prescribes methods and means of proper mill cleaning and maintenance. — OAKITE PRODUCTS, 26C Rector St., New York 6, N. Y.

123. ROLLER BEARINGS FOR TEXTILES — Easy to read non-technical bulletin describes where and how Hyatt Roller Bearings are employed for more profitable textile production. — HYATT BEARINGS DIV., GENERAL MOTORS CORP., Harrison, N. J.

125. STATIC ELIMINATION — Bulletin by Simco describes effective, simple, safe and inexpensive means of eliminating static. — SIMCO COMPANY, 980 Walnut St., Lansdale, Pa.



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1. Complete protection at all points
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126. TOLEDO TRUCK SCALES — Booklet tells how mills may save on installation and throughout long, useful lift of Toledo Truck Scales. Gives capacities and advantages. — TOLEDO SCALE COMPANY, Toledo 1, Ohio.

127. SOLENOID VALVES — Bulletin "V" lists sizes from ⅛ inch to 3 inches; valves for normally open or closed service; stainless steel or Jenkins disc seats; three way solenoid valves, etc.; typical installations. — THE JOHNSON CORP., Three Rivers, Mich.

130. STAINLESS STEEL FABRICATION — Illustrated color booklet by Sims describes the advantages of stainless steel with regard to textile operations. Also includes information on ventilating and drying, slasher exhaust, and materials handling systems. — SIMS METAL WORKS, West Point, Ga.

131. "AIR-PROCESSING" — Set of three bulletins showing real meaning of the term, where it can be used, the requirements for a successful system, etc. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

132. AUTOMATIC BOILERS — Bulletin describes POWER-MASTER Automatic Boilers for light and heavy oil; gas or combination Gas-Oil Firing. Complete table of data. — ORR AND SEMBOWER, INC., Reading, Pa.

135. COLOR CONDITIONING — Booklet illustrated in color describes how Du Pont color conditioning puts color to work for you. Many ideas on safety brought out which color can aid. — E. I. DU PONT DE NEMOURS & CO., INC., FINISHES DIV., Wilmington 98, Delaware.

138. METAL CONVEYOR BELTS — Recent catalog describes and illustrates Ashworth's entire range of manufacture, including the new Flat Wire Belt design and application, along with their Woven Wire Constructions and Positive Drive Chain Edge belts. —ASHWORTH BROS. INC., METAL PRODUCTS DIV., Fall River, Mass.

146. FUNCTIONAL GLASS BLOCK DATA — Folder shows in detail daylighting function of Light-directing and Light-diffusing Functional Glass Blocks. — PITTSBURGH CORNING CORP., 307 4th Ave., Pittsburgh 22, Pa.

150. RIHCO HUMIDIFIERS AND COOLING SYSTEMS — Bulletin describes new atomizers with construction lessening air consumption in humidifier systems evaporative cooling systems. — ALDRICH MACHINE WORKS, Greenwood, S. C.

151. INDUSTRIAL BRUSHES — Illustrated booklet of industrial brushes featuring textile usage on shears, printing machines — also flock, raising and cylinder brushes. — M. W. JENKINS SONS, INC., 444 Pompton Ave., Cedar Grove, N. J.

153. LAMINATED TEXTILE PLASTICS — Booklet by Synthane Corporation shows variety, application, and advantages of laminated plastic parts and supplies for the textile industry. — SYNTHANE CORPORATION, TEXTILE DIVISION, Oaks, Penna.

161. AUTOMATIC CLEANING EQUIPMENT — Complete booklet by American MonoRail shows working details and advantages of the Tri-Rail Cleaner, a great improvement over the original unit. — AMERICAN MONORAIL CO., 13107 Athens Ave., Cleveland 7, Ohio.

162. MODERN METHODS OF TEXTILE FLOOR MAINTENANCE — Illustrated treatise on the history of floor cleaning in textile plants and a detailed description of new methods for reducing floor cleaning costs as well as preserving textile mill floors.— G. H. TENNANT COMPANY, 2530 N. Second St., Minneapolis 11, Minn.

173. BLOWERS AND EXHAUSTERS — Bulletin No. 3014-D describes types "B" and "BE" electric blowers and exhausters. Uses and full description of each with detail drawings. — BUFFALO FORGE CO., 490 Broadway, Buffalo 5, N. Y.

174. PAINT STRIPPING BOOKLET — Illustrated booklet providing helpful data on latest materials and methods for simplified stripping of paint. Methods described include: (1) steam gun; (2) hot flow-on; (3) cold spray; and (4) tank immersion. — OAKITE PRODUCTS, INC., 22 Thames St., New York 6, N. Y.

181. AIR FILTRATION — Bulletin 234 describes and illustrates the Auto-Airmat, which is the Automatic Dry-Type air filter. Principle of operation, performance, characteristics, construction and installation fully discussed. — AMERICAN AIR FILTER COMPANY, INC., 275 Central Ave., Louisville 8, Ky.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

203. TREADED LEATHER BELTING — This 16 page booklet describes Houghton's line of patented, specially treaded leather belting for all types of power transmission. Booklet includes valuable engineering and maintenance section. — E. F. HOUGHTON & CO., Philadelphia, Pa.

205. MAINTENANCE OF VARIABLE SPEED DRIVES — Bulletin describes and illustrates the simple but comprehensive program available to keep Reliance V-S Jr. Drives in operation at peak efficiency. — RELIANCE ELECTRIC & ENGINEERING CO., 1088 Ivanhoe Rd., Cleveland 10, Ohio.

208. CUTLER-HAMMER MOTOR CONTROL — Booklets describe the combination starters for the textile industry, for roving frames and spinning frames, loom switch and Cutler-Hammer Motor Control for textile cards. — CUTLER-HAMMER, 315 N. 12th St., Milwaukee, Wisconsin.

209. STEEL PULLEYS — Pictorial review of American Steel Pulleys, their manufacturing processes and some of their end uses. Textile pulleys are featured. — AMERICAN PULLEY CO., 4200 Wissahickon Ave., Philadelphia 29, Pa.

212. GATES TEXTILE ACCESSORIES — Handy pocket-size catalog BHM-7, fully illustrated, gives specifications of Gates textile accessories including pickers, lug straps, check straps, cone belts, evener belts, harness straps, take-up roll covering, and others. — THE GATES RUBBER COMPANY, 1001 Broadway, Denver 17, Colo.

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213. LUBRICATION OF ELECTRIC MOTORS — Illustrated bulletin on lubricating and cleaning ball and roller bearings on electric motors. — NEW YORK & NEW JERSEY LUBRICANT COMPANY, 292 Madison Ave., New York 17, N. Y.

218. BALL BEARINGS FOR TEXTILE MACHINERY — A 40-page catalog illustrating Fafnir Ball Bearing units for replacement or new applications in all phases of textile processing. — THE FAFNIR BEARING CO., New Britain, Conn.

222. AUTOMATIC PRODUCTION CONTROL — Booklet by Reeves Pulley Company, shows application of many automatic processes and controls to the textile industry. Well illustrated, it contains engineering data quite useful to anyone interested.—REEVES PULLEY COMPANY, Columbus, Indiana.

223. LUBRICATION OF BEARINGS — Booklet entitled "Lubrication and Maintenance of Ball and Roller Bearings" gives helpful list of do's and don'ts to prolong bearing life. Also includes valuable information on storage and handling of lubricants. — NEW YORK & NEW JERSEY LUBRICANT CO., 292 Madison Ave., New York 17, N. Y.

225. HYDRAULIC SLASHER DRIVES — Color booklet by Vickers shows how hydraulic drives provide an economical approach to improved slasher operation. Has detailed pictures and enumerates advantages. — VICKERS, INC., 1036 Peachtree St., Atlanta, Ga.

229. NEW NEEDLE OIL — Booklet by Shell gives facts on Vexilla Oil 117, which gives 12 times more rust protection during operation and during shut-down periods. — SHELL OIL CO., 50 West 50th St., New York 20, N. Y.

229. DODGE GENERAL POWER TRANSMISSION MACHINERY — Catalog describes various types of power transmission apparatus by Dodge. Gives specifications, sizes, applications, and prices. Very comprehensive. — DODGE MANUFACTURING CORP., Mishawaka, Indiana.

232. "VARI-PITCH" SHEAVE BULLETIN — Stationary and motion control of "Vari-Pitch" sheaves for speed variation up to 76% by means of pitch diameter adjustment, capacities 1 to 600 HP are described in new bulletin. — ALLIS-CHALMERS MFG. CO., Milwaukee 1, Wisconsin.

233. LEATHER BELTING — Booklet by Atlanta Belting Co., describes comprehensively the selection, installation, and proper maintenance of modern leather belting. — ATLANTA BELTING CO., 508-510 Whitehall St., S.W., Atlanta, Ga.

234. SPINDLE OIL — Color brochure describes "Gulfspin," showing how it insures against excessive wear in cast iron bolsters and provides freedom from spindle wobble. — GULF OIL CORPORATION, Gulf Bldg., Pittsburgh, Pa.

237. MOTOR CONTROL — Brochure gives description and engineering data on the Cutler-Hammer Motor Control for roving and spinning frames. Users listed and advantages discussed. — CUTLER-HAMMER INC., Milwaukee, Wisc.

239. TEXTILE LEATHERS CATALOG — Catalog by J. E. Rhoads & Sons gives characteristics and advantages of Rhoads "Tannate" leathers. Complete line is listed and described, and tips for correct installation. Copiously illustrated. — J. E. RHOADS & SONS, 2100 W. Eleventh St., Wilmington 99, Del.

240. CATALOG OF NEEDLE BEARINGS — New catalog conveniently presents design, application and use data for five types of needle bearings. Actually an engineering short course on bearings with visual index units. — THE TORRINGTON CO., Torrington, Connecticut.

233. TEXTILE LUBRICATION — "Lubrication" a magazine published by the Texas Co. is available. Shows methods and means of lubricating chain drives in very comprehensive form. — THE TEXAS CO., 135 East 42nd St., New York 17, N. Y.

256. METERED LUBRICATION — Bulletin 6A has 12 illustrated pages showing how central lubricating systems are applied to combers, roving frames, winders, knitters, looms, etc. — BIJUR LUBRICATING CORP., Rochelle Park, N. J.

265. SERVICE PROCEDURE FOR BALL BEARINGS — A helpful manual for maintenance engineers giving helpful hints on disassembly, inspection, cleaning, lubrication, and replacement of ball bearings in any mechanism. — NEW DEPARTURE, DIVISION OF GENERAL MOTORS CORP., Bristol, Conn.

INSTRUMENTS, STEAM SPECIALTIES . . .

301. JOHNSON ROTARY PRESSURE JOINTS—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instruction, types, sizes, dimensions and prices. — THE JOHNSON CORP., Three Rivers, Mich.

302. TEXTILE INSTRUMENTATION—New booklet gives details on Brush Lapcheck, Brush Tension Analyzer, Brush Imperfection Counter, and Improved Uniformity Analyzer. Pictures uses and capacities of each machine discussed. — BRUSH ELECTRONICS CO., 3405 Perkins Avenue, Cleveland 14, Ohio.

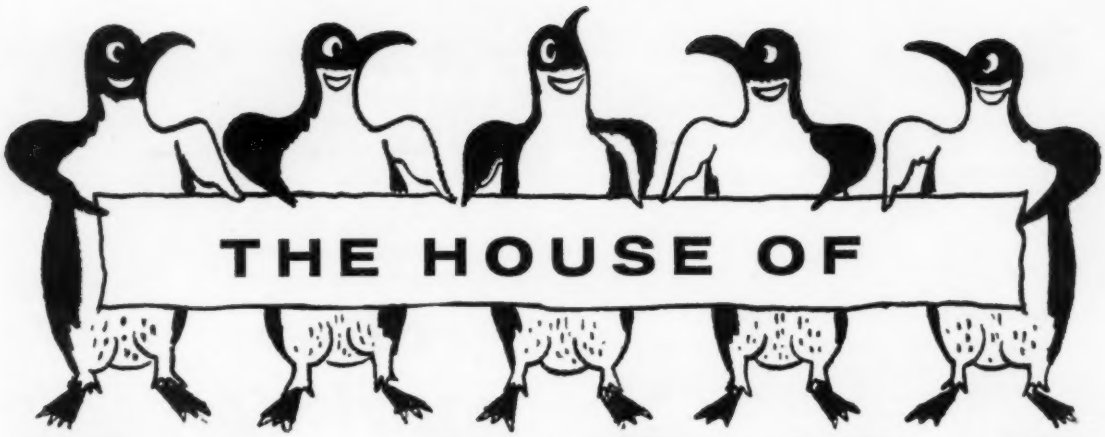
304. WASTE HEAT RECOVERY — Color booklet describes Bready System of waste heat recovery from polluted or soiled waste water. Includes pictures and complete facts. — LUDELL MFG. CO., 5300 West State Street, Milwaukee, Wisconsin.

305. AUTOMATIC MOISTURE CONTROL—Booklet tells how Hunter Electro-Psychrometers are used in measuring percentage of moisture in all classes of textiles, whether yarns or fabrics.—HUNTER CONTROLS, INC., DIV., JAMES HUNTER MACHINE CO., North Adams, Mass.

313. "THE FAIRBANKS VALVE COMPARISON CHART" — New reference manual important in specification, ordering, and using of bronze and iron-body valves. — THE FAIRBANKS COMPANY, 393 Lafayette Street, New York 3, N. Y.

315. MICRO SWITCH BULLETIN — Complete selection of bulletins featuring Micro Switch products is now available. Includes prices, characteristics, applications, etc. — MICRO SWITCH DIV., MINNEAPOLIS-HONEYWELL REGULATOR CO., Freeport, Ill.

316. MOISTURE CONTROLLER AND INDICATORS — Literature available from Strandberg Engineering covers indicators for slashers, tenters, etc.; for direct connection to pickers, and automatic controllers for connection to same. — STRANDBERG ENGINEERING LABORATORIES, 416 W. Market St., Greensboro, N. C.



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324. STROBOTAC — Informative reprint, "Strobotac Boosts Efficiency in Woolen and Synthetic Mills." — GENERAL RADIO CO., Cambridge 39, Mass.

339. NEW LUBRICATED PLUG VALVES — Illustrated booklet by The William Powell Co. features a new line of semi-steel and steel lubricated plug valves. Advantages include quick and positive shut off. — THE WILLIAM POWELL COMPANY, 2525 Spring Grove Ave., Cincinnati 22, Ohio.

CARDING, SPINNING, WINDING . . .

401. LUMMUS DUSTLESS, STEEL BLENDING FEEDERS — Bulletin describing automatically closing, positively locking door on feeders to prevent overloading, choking. — ALDRICH MACHINE WORKS, Greenwood, S. C.

402. AUTOMATIC CLEANING AND OVERHEAD HANDLING FOR TEXTILE MILLS — 24-page bulletin describing the American Monorail Automatic Cleaner for preventing accumulation of lint on spinning, twisting, winding and warping machines. Also for cleaning monitors and card room ceilings. — THE AMERICAN MONORAIL CO., Cleveland, Ohio.

403. TRAVELING CLEANERS — 4-page bulletin describes the improved Parks-Cramer Frame and Room Cleaners including the Underframe and Floor Sweepers. — PARK-CRAMER CO., Fitchburg, Mass.

404. LAPLESS ENDLESS SPINNER — Bulletin and full information will be supplied on lapless endless spinner and coning belting. — TON-TEX CORPORATION, 31 Columbus Ave., Englewood, N. J.

408. CARD GRINDING INFORMATION — Outlines care of grinders, instructions on speed to run grinders, amount of oil to add to machine and other pertinent information. — B. S. ROY & SON CO., Worcester, Mass., and Charlotte, N. C.

411. SHEET METAL WORK — Pamphlet describes spinning cylinders, aspirators, card screens, sheet metal specialties. — GASTONIA TEXTILE SHEET METAL WORKS, INC., 222 East Long Avenue, Gastonia, N. C.

412. SERVICE FOLDER — Folder covers textile metal products including spinning and twisting cylinders, card screens, etc. — JENKINS METAL SHOPS, INC., Gastonia, N. C.

413. HIGH SPEED, AUTOMATIC QUILLER — Color booklet by Schlafhorst describes the "Autocopser" Automatic Quiller. Gives advantages, space requirements, etc. — TERRELL MACHINE CO., INC., Charlotte, N. C.

414. WORSTED SPINNING — Bulletin explaining and illustrating Saco-Lowell's new system for worsted spinning, from top yarn in five economical and efficient stages. — SACO-LOWELL SHOPS, 60 Batterymarch St., Boston 10, Mass.

415. DOUBLER-TWISTER FOR LARGE PACKAGES — Bulletin describing two new machines producing straight or tapered top bobbins. Suitable for filament or spun yarns up to three pound capacity. Individual thread stop motion fully discussed. — FLETCHER WORKS, INC., Philadelphia, Pa.

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417. FEATHERTOUCH DRAFTING — Booklet describes in detail with pictures the most uniform drawing, the strongest drawing with the highest production per frame at the lowest cost. — IDEAL INDUSTRIES, INC., Bessemer City, N. C.

419. TEXTILE APRONS — Illustrated folder showing the steps in manufacture of genuine leather aprons for all types of long draft spinning and card room machinery. — TEXTILE APRON COMPANY, East Point, Ga.

422. WARPER BEAMS — Folder describes the high speed for rayon tire cord, cotton warper beams, cast aluminum end supports and large diameter heads. — U. S. BOBBIN SHUTTLE CO., Lawrence, Mass.

423. SPINDLE OILING MACHINE — Information available on new Spindle Oiling Machine. Features include filter system to clean oil for reuse; smaller size for narrow aisles. — WICACA MACHINE CORP., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

424. GREASE-SEALED, ANTI-FRICTION ROLLS — Booklet contains description and engineering drawings of the Cole grease-sealed, anti-friction rolls. Also contains information on dual apron controlled drafting units. — COLE ENGINEERING CORP., P. O. Box 153, Columbus, Ga.

425. HANDY REFERENCE TABLES — Folder showing spinning traveler speeds, sizes of ring flanges, etc. — VICTOR RING TRAVELER CO., Providence, R. I., and Gastonia, N. C.

426. UNIRAIL UPTWISTER — Bulletin describes Universal Winding's headless package or bobbin take-up Unirail Uptwister which gives you higher yarn quality and better packages at faster speeds and lower costs, according to the bulletin. Well illustrated with advantages discussed. — UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence, R. I.

429. BETTER FLYER AND SPINDLE EFFICIENCY — Entertaining booklet by Ideal Machine Shops gives facts about Flyers and Spindles which have helped many mills gain more efficient production, better yarn quality. — IDEAL MACHINE SHOPS, INC., Bessemer City, N. C.

431. TEXTILE VACUUM SYSTEM — Color bulletin by Spin Sa Vac describes application of their vacuum system to drawing, roving and spinning processes, and for the removal of broken ends, fly or sliver. Complete diagrams and shots of typical installations. — SPIN SA VAC CORPORATION, 1438 South Tryon St., Charlotte, N. C.

432. PRECISION TEXTILE WINDING — Bulletin on Kidde Tensions and Density Control for winding rubber cones. — WALTER KIDDE & CO., INC., Belleville, N. J.

433. PERMANENT PLATE MAGNETS — Bulletin shows how Eriez Magnetic Separators prevent fires and protect machinery from tramp iron in all types of textile mills. — ERIEZ MFG. CO., Erie, Pa.

434. SPINNING AND TWISTER RINGS — Catalog and price list now available on Whitinsville "Diamond Finish" spinning and twister rings. Complete details and pictures. — WHITINSVILLE SPINNING RING CO., Whitinsville, Mass.

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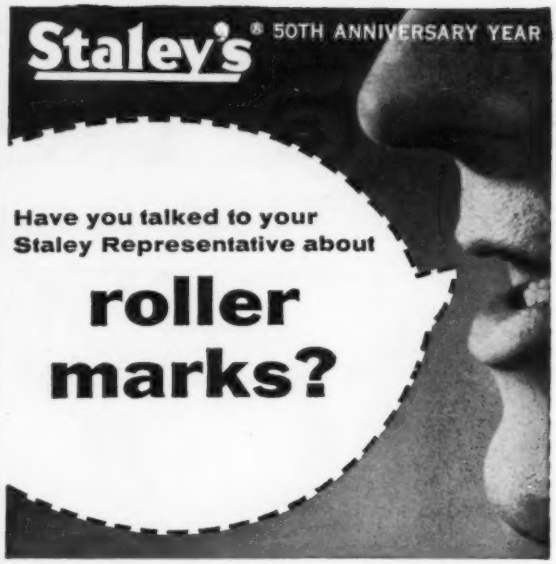

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437. PRECISION GEAR BULLETINS — Now available from Precision Gear are bulletins on machinery products for cleaning and picking, roving frames, spinning and twisting and a general catalog on gears. — PRECISION GEAR AND MACHINE CO., 2601 N. Tryon St., Charlotte 2, N. C.

438. HEADLESS PACKAGE TWISTER ELIMINATES REDRAWING — Literature shows high-speed Free Drive Twister for accurately building tapered or straight-end headless packages which go direct to quilling or warping without redrawing. — U. S. TEXTILE MACHINE CO., Scranton 8, Pa.

439. PNEUMAFIL SUCTION CLEANING SYSTEMS — Booklet describes types of Pneumafil Systems, gives details of new Collector Unit model C-4. New type LFC Pneumafil is also discussed. Diagrams, comparison charts and installation pictures included. — PNEUMAFIL CORP., Charlotte 8, N. C.

440. CUSTOM MADE THREAD GUIDES — Color brochure describes complete line of American Lava Company's thread guides. Composition, properties, specifications of all designs included. — AMERICAN LAVA CORPORATION, Chattanooga 5, Tenn.

444. OPENING AND CLEANING MACHINERY—Color brochure by Dodenhoff describes their waste machine, enclosed feeder, conveyors and cleaner. Specifications included with pictures.—W. D. DODENHOFF CO., Box 178, Greenville, S. C.

445. ROLLER BEARING SPINDLES — Illustrated booklet showing various types of Marquette Roller Bearing Spindles. The unique full-floating footstep bearing is pictured in cut-away views, and its advantages are described. — THE MARQUETTE METAL PRODUCTS CO., 1145 Galewood Ave., Cleveland, Ohio.

447. CONE WINDER — Form A95 describes the Foster Model 102 winder which produces the Foster knitting cone for spun yarns, warping cones and tubes for dyeing and twister supply. — FOSTER MACHINE COMPANY, Westfield, Mass.

448. AUTOMATIC BLENDING SYSTEM—Dodenhoff system, called "Fiber Meter" is fully described in color booklet. Gives actual operating results, shows pictures and illustrates typical conversion of old fashioned systems. — W. D. DODENHOFF CO., 745 Loundes Hill Road, Greenville, S. C.

449. NEW CONDENSER TAPE — Literature by Benjamin Booth describes newly introduced SUPR-O-TAPE, an impregnated fabric condenser tape. Shows actual sample of tape and gives complete prices. — BENJAMIN BOOTH CO., Allegheny Ave., & Janney St., Philadelphia 34, Pa.

450. HIGH SPEED AUTOMATIC QUILLER — Color booklet describes the Schlafhorst "Autocopser," listing its advantages and giving dimensions. — TERRELL MACHINE CO., INC., P. O. Box 928, Charlotte, N. C.

451. ROLLER BEARING SPINDLE — Color booklet gives principal features and main advantages of 8MM Roller Bearing Spindle. Detailed drawings included. — H. PHIL WORTH, Box 1555, Greenville, S. C.

452. PNEUMAFIL LINT-FREE CREEL — Color booklet describes the new Airfoil Design Pneumafil type LFC with Built-in Lint-Free Creel. Gives complete details and pictures. — PNEUMAFIL CORPORATION, Charlotte 8, North Carolina.

453. EVENNESS TESTER — Folder explaining how this Tester takes the guess out of quality control and each processing step from carding through spinning. — USTER CORPORATION, Charlotte, N. C.

458. CONICAL RINGS AND FLYERS — Special data available on the Herr conical rings and flyers. — HERR MANUFACTURING CO., INC., 318 Franklin St., Buffalo 2, N. Y.

459. TENSION CONTROLS — Folder describing tension compensation and automatic tension controls. Three models — Standard, Warp, and Double Disc fully described with specific application. — WALTER KIDDE & CO., INC., 190 Main St., Belleville 9, N. J.

461. PRECISE WIND MACHINE — Form A-92 describes the Foster Model 75 widely used for winding straight or pineapple cones and tubes of rayon, nylon and other filament yarns. — FOSTER MACHINE COMPANY, Westfield, Mass.

462. TEXTILE MACHINERY PARTS CATALOG — A 24-page illustrated catalog describing the complete line of Dayco and Thorobred textile machinery parts including Cots, Aprons, Loop Pickers, Lug Straps, etc. — DAYTON RUBBER CO., Dayton, Ohio.

467. CARD CLOTHING — 8-page booklet by Benjamin Booth Company describes Strip-O-Matic Card Clothing and its advantages. — BENJAMIN BOOTH COMPANY, Allegheny Avenue & Janney Streets, Philadelphia, Pennsylvania.

469. SHORT CUT TO STAPLE FIBER SPINNING — Color brochure shows the ten steps in operation of the Turbo Tow Stapler, gives technical details and diagrams. — TURBO MACHINE COMPANY, Lansdale, Pa.

471. FACTS ABOUT YOUR FLYERS AND SPINDLES — Booklet by Ideal Machine Shops shows how smooth Flyer and Spindle operation can help produce higher and more efficient output, good quality yarn, minimum wear, and larger bobbins. — IDEAL MACHINE SHOPS, Bessemer City, N. C.

472. TWISTING MACHINERY — Bulletin gives outstanding features, specifications facts and useful information on Novelty Yarn Twisters for Cotton, Silk, Worsted and Rayon Yarns. — COLLINS BROTHERS MACHINE COMPANY, 647 Roosevelt Ave., Pawtucket, Rhode Island.

474. BALL BEARING COMB BOXES — Southern States Equipment Corp. offers literature on their famous C-1 Ball Bearing Comb Boxes. Description, working principle, cut-a-way views shown. — SOUTHERN STATES EQUIPMENT CORP., Hampton, Ga.

475. TEXTILE ROLL COVERINGS AND MILL SUPPLIES — Color booklet by Armstrong shows and describes their complete line of textile roll coverings, including also loom supplies, mill supplies, roll covering for cotton, silk and synthetic and woolen and worsted systems. An excellent guide book. — ARMSTRONG CORK CO., INDUSTRIAL DIV., Lancaster, Pa.

476. TEXTILE FIBER OPENER FOR COTTON, SYNTHETICS, WOOL — New brochure by Cen-Tennial Cotton Gin Co. gives complete data on the Cen-Tennial Opener which incorporates improvements on the original SRRL Opener. Complete operating procedure is described. — CEN-TENNIAL COTTON GIN CO., Columbus, Ga.

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495. WEAVER'S KNOTTER — A catalog on the Boyce Weaver's Knotter giving a few instructions as to its use, recommendation as to the proper type knotter for the various types of yarns, and the spare parts that go to make up the knotter. — A. B. CARTER, INC., Gastonia, N. C.

496. COTTON SIZING WASTE PROBLEM SOLUTION — Booklet describes the use of soluble, low-pollutional CMC in place of starch and how this can reduce costs. — HERCULES POWDER CO., Wilmington 99, Delaware.

WEAVING, SLASHING . . .

501. LOOMS — An accordion type folder is available entitled "Unfolding to You the World's Largest Line of Looms." Information on all types fully discussed. — CROMPTON & KNOWLES LOOM WORKS, Worcester 1, Mass.

502. COUNTING AND MEASURING DEVICES—Condensed textile catalog illustrating and describing pick counters, hank counters, cut meters, measuring counters. Wide range of counting devices for production recording on all types of textile machinery. — VEEDER-ROOT, INC., Hartford, Conn.

504. LOOM SUPPLIES — Literature describing complete line of straps, strapping, pickers, dobby cords, sticks, binders, bumpers, brake lining and Allied Products — E. H. JACOBS NORTHERN DIV., THE BULLARD CLARK CO., Danielson, Conn.

505. INNOVATION IN TEXTILE DRYING — Booklet by J. O. Ross gives details on Steam or Gas "Hot Air" Slasher for high speeds at low cost. — J. O. ROSS ENGINEERING CORP., 444 Madison Ave., New York 22, N. Y.

506. SLASHING HINTS — A 20-page booklet offering helpful hints on warp sizing. Subjects: Size cooking equipment, section beam tension, sizing selvages, cooking, use of split rods, weighing for the mix, tips on cooking equipment, storage in kettles, etc. — SEYDEL-WOOLLEY & CO., 748 Rice St., N.W., Atlanta, Ga.

508. LOOM PRODUCTION CHARTS — Convenient celluloid card showing yards per loom per week of 40 hours at various loom speeds. — RALPH E. LOPER CO., Greenville, S. C.

510. CONTROLLED SIZING — Brochure in color describes the legend, operation and specification of the new Griffin Size Machine. Features most important basic improvements in size machines in many years. — IRA L. GRIFFIN & SONS, P. O. Box 1576, Charlotte, N. C.

511. ALUMINUM BEAMS — Catalog No. 1-21 describes Hayes magnesium and aluminum specialties for the textile industry. Illustrates this company's beams that are one-third the weight of conventional types. — HAYES INDUSTRIES, INC., Jackson, Mich.

514. THE STORY OF STARCHES — Semi-technical booklet tells the story of starches and information on how they are produced, the creation of new specialty starches, the unique "man-made" starch derivatives, and the handling of starches. — NATIONAL STARCH PRODUCTS, INC., 270 Madison Avenue, New York 16, New York.

515. WARPING, SLASHING, WEAVING ARNEL YARNS — 8-page booklet preliminary information on Arnel Triacetate Yarns. — CELANESE CORP. OF AMERICA, TEXTILE DIVISION, Box 1414, Charlotte, N. C.

517. LOADING SYSTEM — Bulletin 417, on pneumatic loading system for Saco-Lowell slasher size box squeeze rolls, contains installation photo, features, specifications, and prices. — THE FOXBORO COMPANY, Foxboro, Mass.

519. ALIGNING LAYS — Informative booklet gives setting instructions for aligning lays. Complete treatment, including step-by-step drawings. — DRAPER CORPORATION, Hopedale, Massachusetts.

521. STEEL WARP BEAMS — 20 page Catalog No. 45 illustrating Standard and Special Purpose Warp Beams for the weaving industry, both broad-loom and narrow fabrics. Also Textile Machinery Specialties. — MILTON MACHINE WORKS, INC., Milton, Pa.

530. ROTARY UNIONS — New catalog shows how to cut costs, get better sealing on can dryers, slashers, calenders, etc. Catalog No. 500 entitled "Where Good Connections Count." — PERFECTING SERVICE COMPANY, Atando Ave., Charlotte, N. C.

537. WEST POINT'S HOT AIR SLASHER — Bulletin describes advantages and capacities of new hot air slasher by West Point Foundry and Machine Works. Detailed specification included. — WEST POINT FOUNDRY AND MACHINE WORKS, West Point, Georgia.

538. AIR SLASHER DRYER — Pamphlet by Proctor & Schwartz shows construction and operating details of the Proctor Air Slasher Dryer. Advantages listed and cut-away view shown. — PROCTOR & SCHWARTZ, INC., 7th St. and Tabor Rd., Philadelphia 20, Pa.

541. BOOKLETS ON COCKER CUSTOM BUILT EQUIPMENT — Six new bulletins available from Cocker include information on the high speed Warp Sizer, high speed Beam Warper, Cocker Creels and Tension, Beam Back-Winders, Indigo Dyeing Ranges, Kettles T-Boxes, etc. — COCKER MACHINE & FOUNDRY CO., Gastonia, N. C.

545. NOPCO CHEMICAL DATA SHEETS — Now available are Nopcostats, Nopco Sizes N and D, Important points in Warp Sizing, Interpretation of Analysis, Wetting Agents, Balanced wool and worsted oils, Acetate warp sizing, Viscose warp sizing, Rayon soaking. — NOPCO CHEMICAL CO., Harrison, N. J

DYEING, FINISHING CLOTH ROOM . . .

601. CONTINUOUS PEROXIDE BLEACHING RANGES — Booklet gives illustrations and describes uses and gives specification of Ranges. — RODNEY HUNT MACHINE CO., 49 Mill St., Orange, Mass.

603. EMCO ROTARY CUTTER WINDER — Bulletin gives applications, sizes and exclusive features.— H. W. BUTTERWORTH & SONS CO., Bethayres, Pa.

604. DYEING, BLEACHING AND DRYING EQUIPMENT — Excellent color brochure by Morton describes their complete line of dyeing, bleaching and drying equipment for cotton, wool and synthetics. — MORTON MACHINE WORKS, 1718 3rd Ave., Columbus, Ga.

606. HYDRAULIC POWER UNITS — Literature describing hydraulic unit, motor, pump, reservoir, valving a small compact unit for operating of hydraulic calenders, presses, hydraulic controls, etc. — B. F. PERKINS & SON, INC., Holyoke, Mass.

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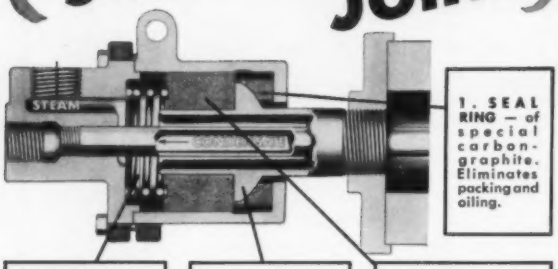
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4. SPRING — For initial seating only. In operation joint is pressure sealed.
3. NIPPLE — Rotates with roll, seals against ring.
2. GUIDE — Also of carbon-graphite. Makes joint self-supporting.

With this 3000 Series Type S-B2 Joint, an assembly plate can be added at any time; it is used with the Johnson Syphon Elbow, to hold internal parts in position when the head is removed. Write for Bulletin No. S-2001.

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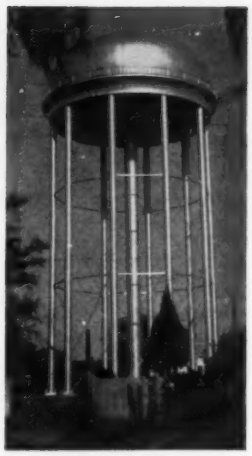

● Write for latest Cole catalog—*Tank Talk*. ●

R. D. COLE Manufacturing Co., Newnan, Ga.

- TANKS
- TOWERS
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- VESSELS
- STANDPIPES

HELPFUL BOOKLETS FREE!

607. RIBBON CALENDERS — Brochure features Dickerhoff Ribbon Calenders for the purpose of calendering, embossing, etc., of narrow fabrics. — ENGINEERING WORKS, HERM. DICKERHOFF LTD., Wuppertal Barmen, Western Germany.

608. WASHERS FOR SCOURING, BLEACHING, ACIDIFYING — Well-illustrated booklet shows how Sargent's modern, high-capacity, continuous process washers can help maintain quality and decrease costs. Contains operation diagram and good commentary on construction. — C. G. SARGENT'S SONS CORPORATION, Graniteville, Massachusetts, U.S.A., for bulletin 195.

609. WET PROCESSING MACHINERY — Complete file of bulletins on Riggs and Lombard Wet Processing Machinery available. Write for catalog index sheet giving summary. — RIGGS AND LOMBARD, INC., Suffolk Street, Lowell, Mass.

610. PROCTOR DRYING MACHINERY FOR THE TEXTILE INDUSTRY — Illustrated, descriptive catalog on all types of dryers for raw stock, warps, package dyed and automatic skein yarn. Also includes pre-boarding and automatic boarding machines for hosiery. — PROCTOR & SCHWARTZ, INC., 7th and Tabor Rd., Philadelphia, Pa.

611. LOW COST DYEING — Bulletin by Blickman describes their fully enclosed, stainless steel Dyebox. Reports increased production per man hour and more runs per day at lower cost. Write for bulletin 7034. — S. BLICKMAN, INC., Gregory Ave., Weehawken, N. J.

613. HERMAS TEXTILE MACHINES — Selection includes brochures on Unwind Stand, Automatic Guiding Unit, Jet Mixer, Selvage Trimming, Clothroom Machinery. — HERMAS MACHINE CO., Hawthorne, N. J.

615. HIGH PRODUCTION EXTRACTOR FOR RAW STOCK—YARN—HOSIERY — Descriptive bulletin and full information on automatic Twintainer Extractor with bottom-unloading removable baskets. Machine replaces three conventional extractors, lowers labor costs. — FLETCHER WORKS, INC., Philadelphia, Pa.

617. AUTOMATIC CONTROL SYSTEM FOR CONTINUOUS BLEACHING — Illustrated folder describes the new method of controlling the temperature, pressure, and liquid level in the continuous bleach operation. — TAYLOR INSTRUMENT COMPANIES, Rochester 1, N. Y.

618. APPLICATION OF FUGITIVE DYES — Bulletin describes UNITINT operation, giving advantages of effectively controlling the application of fugitive dyes to various fibers. — W. D. DODENHOFF COMPANY, 745 Lowndes Hill Rd., Greenville, S. C.

619. PENFORD FINISHING GUMS — Booklet by Penick & Ford gives complete data, including physical properties and results which may be expected on Penford gums. — PENICK & FORD, Ltd., 420 Lexington Ave., New York 17, N. Y.

620. REGENERATION OF ZEOLITE WATER SOFTENERS — Booklet explains advantages of International's Lixate Process in regeneration of zeolite water softeners. Shows how it cuts costs and does a better job. — INTERNATIONAL SALT COMPANY, INC., Scranton, Pennsylvania.

621. "DYEING SYNTHETIC FIBERS" — Brochure giving a comprehensive, detailed analysis of the methods and materials available for dyeing synthetic fibers. — GENERAL DYESTUFF CO., 435 Hudson St., New York 14, N. Y.

627. SINGLE APRON STOCK DRYERS — Folder presenting the latest idea in automatic drying which every mill having drying problems can profitably use to meet modern manufacturing conditions. — C. G. SARGENT'S SONS CORP., Graniteville, Mass.

630. COMPLETE NAPTHOL MANUAL — Practical working handbook, 110 pages, on textile dyeing and printing applications of Napthols. Write on company letterhead to PFISTER CHEMICAL WORKS, Box 336, Ridgefield, N. J.

631. ELIMINATE DYE-BATH SHOCK — Data sheet by Foxboro shows how woven fabrics and hosiery may be protected from Crow's-feet, uneven shade, creasing caused by too rapid cooling of goods.—FOXBORO COMPANY, 437 Neponset Ave., Foxboro, Mass.

632. LUG STRAP WASHERS — Series 1-C illustrated bulletin detailing right and wrong application and use of washers. — H. H. JACOBS NORTHERN DIV., Danielson, Conn.

635. NAPPERS FOR TREATING ANY FABRICS — Bulletin gives complete details on the Muller Tri-Napping Machine with 24, 30, or 36 rollers. Dimensions and weights included. — FRANZ MULLER, M. Gladbach, Germany.

637. BALL BEARING TURN TABLE — Leaflet describing this 48 inch diameter steel turn table for use in mills where the cloth is delivered in rope form to trucks and the trucks are placed in position ahead of a Scutcher or cloth opening machine. Advantages discussed. — BIRCH BROTHERS, INC., 32 Kent St., Somerville, Mass.

639. ROTARY DYEING MACHINE — Booklet No. 425 illustrating the features of these stainless steel machines used for dyeing hosiery, hats, gloves, socks, etc. — SMITH, DRUM & CO., Allegheny Ave. at 5th St., Philadelphia 33, Pa.

642. SELVAGE OR BACK MARKING MACHINE — Complete specifications and performance data on a new full automatic marking machine available from Kaumagraph. — KAUMAGRAPH CO., Wilmington 99, Delaware.

643. SURFACE-ACTIVE AGENT — Bulletin gives characteristic properties, suggested applications, etc. of the Nonionic Octylphenoxyethanol Triton Surface-Active Agents. — ROHM & HAAS CO., SPECIAL PRODUCTS DEPT., Philadelphia 5, Pa.

644. DYEING, BLEACHING, FINISHING BULLETINS — Saturator for roped goods, J-Box (for Beece process), J-Box (for duPont Process), Continuous Bleaching Ranges, Carrier Reels, Drum-Type Plaiter are available from WIESNER-RAPP CO., INC., 1000 Seneca Street, Buffalo 10, New York.

653. GUIDERS AND TENSION DEVICES — Illustrated and described are the Mount Hope Precision Guiders and open width Tension Devices used for accurate, straight line guiding of open width goods. Bulletin SG-PG. — MOUNT HOPE MACHINERY CO., Fifteen Fifth St., Taunton, Mass.

659. SONOCO TUBES FOR PACKAGE DYEING — Color bulletin describes Sonoco's DYTEX tubes for one-time use in standard package dyeing equipment to achieve uniformity. — SONOCO PRODUCTS CO., Hartsville, S. C.

DYESTUFFS, CHEMICALS, SOAPS . . .

701. MAGNESIUM APPLICATIONS — Case history information on magnesium applications in the textile field, published bi-monthly with latest developments in the magnesium industry. — DOW CHEMICAL CO., Midland, Mich.

704. FUNDAMENTALS OF INDUSTRIAL WATER TREATMENT PROCESSES — 24-page booklet page booklet on the Lixate Process replaces former methods of the three major classifications of industrial water treatment based on ion exchange: softening, dealkalization, and deionization. — ROHM & HAAS COMPANY, RESINOUS PRODUCTS DIV., Washington Square, Philadelphia 5, Pa.

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They produce better fabrics at less cost

Actually, of course, there are many reasons for the superiority of Eclipse Bobbin Holders. Easy installation, reduced maintenance requirements (resulting in substantial savings in labor costs), resistance to rust, durability (some holders in operation for more than ten years) and many, many more. Put them all together, though, and they add up to one basic fact: with Eclipse, you get *better fabrics at lower cost*. And what better reason could there be for the amazing sales increase Eclipse has enjoyed in the past year. The textile industry has discovered that the use of old-fashioned wooden skewers is inefficient and costly. The modern way to spin cloth is with Eclipse Bobbin Holders. Our increased plant capacity now assures you of prompt delivery. Write or call Eclipse Machine Division today.

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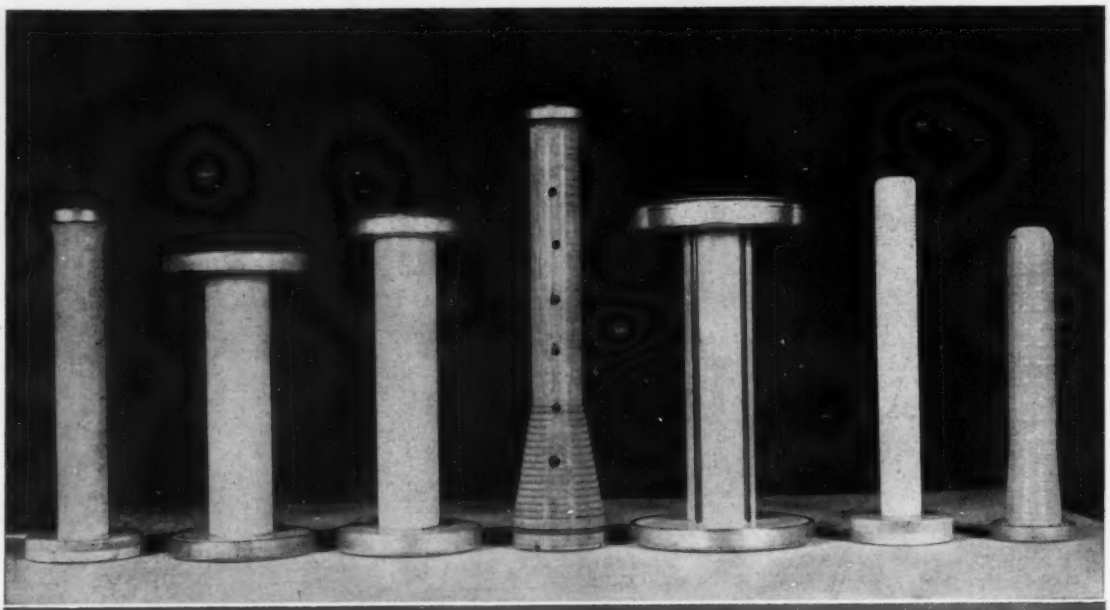

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Personal NOTES ABOUT MEN YOU KNOW

(Continued from page 38)

With headquarters at the Osage Mill in Bessemer City, N. C., Mr. Cobb is executive in charge of all synthetic fabric manufacturing operations.

Kenneth B. Cook, who has resigned as an officer of Sunbury (Pa.) Textile Mills, Inc., but continues as a director of the company, is now general manager of Walter V. Clarke Associates, Inc., Providence, R. I., management consultants.

Promoted to manager of the new products department of Pepperell Mfg. Co.'s Lindale Division was **John Holland,** who now has headquarters in New York. Mr. Holland was formerly with the finishing department.

Paul Hemmerich became president of Hemmerich Knitting Co., Sinking Spring, Pa., when it acquired The Duffy Silk Co.'s Murphy, N. C., plant, of which he was executive vice-president.

New statistical director of The National Federation of Textiles, Inc., is **Karl Laubenstein.**

Following the resignation of **H. J. Smith, Jr.,** as president and treasurer of Charlottesville (Va.) Woolen Mills, Inc., **Llewellyn P. Haden** was elected to replace him. Mr. Smith, who resigned in order to devote more time to production, was elected vice-president and general manager.

Upon purchasing the controlling interest in Triangle Finishing Corp., Johnstown, N. Y., and assuming chairmanship of the board, **Robert Patterson** resigned his position with American & Efird Mills.

C. P. Gordon, Sr., traffic manager of the Ware Shoals (S. C.) division of Riegel Textile Corp., retired early this year after more than 37 years with the company. He is succeeded by **J. B. Hughes** as manager of the Ware Shoals railroad.

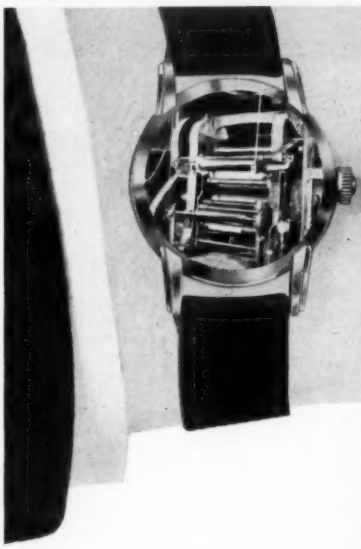
Everett L. Kent, who is now chairman of the board of Kent Manufacturing Co., Clifton Heights, Pa., is succeeded as president of the company by his son, **William I. Kent.**

Recently installed as mayor of Columbus, Georgia, was **Robert T. Davis, Jr.,** who is vice-president of Swift Spinning Mills in Columbus.

President of the National Association of Finishers of Textile Fabrics is **J. Marshall Cole,** who was elected to succeed Walter R. Howell. Mr. Cole is vice-president of Cold Springs Bleachery, Yardley, Pa.

Recent promotions in the Deering-Milliken group include the following: At Judson Mills, Greenville, S. C., **James Bailey** is now vice-president and general manager; **Alfred G. New,** formerly superintendent, is now plant manager. **Garland G. Simmons,** general manager of Drayton Mills, Spartanburg, S. C., has also been named treasurer. **Martin G. Wallace** has been appointed plant manager of Laurens (S. C.) Mills to succeed **Jesse M. Jackson.**

Recent personnel changes at Erwin Mills included the promotion of **Marchant C. Cottingham** of Durham, N. C., to vice-president for manufacturing, and **E. W. Seigler** to vice-president and general manager. **E. G. McIver, Jr.,** was named assistant to the vice-president, and was replaced by **Jesse A. Boyce** as assistant manager of the Durham plants; Mr. Boyce was formerly superintendent of the



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BUSINESS MAGAZINE EDITION

If you are looking for a *really good* general purpose cationic softener, we recommend Laurel OLAMINE WN. This quality product is a soft, light colored paste which is very easy to disperse in water. It possesses excellent softening properties and is being used with satisfactory results on cotton, wool, nylon, acetate, and orlon . . . on yarn, knitted and woven piece goods. The excellent ageing properties of Laurel OLAMINE WN recommend it for use on whites. And, it has no adverse effect on shades! It is compatible with resins, dextrines and most finishing agents. It is also an excellent top softener for resin finished goods. For most uses about 1% OLAMINE WN on the weight of the goods is all that is required. Apply it by pad, quetsch or open kettle method.

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Do you need a good renewable water repellent for cotton? Laurel WATER REPELLENT M is quite possibly the answer to your requirements. It is stable to storage, forms stable emulsions at use concentrations, and is readily dispersible without boiling. Laurel WATER REPELLENT M may be applied by pad or open kettle methods. (Small quantities will do a big job!) Let us send you a working sample and see its advantages for yourself.

●

Laurel RUXITE A is an excellent lubricating and conditioning agent for rayon novelty yarns. It will add softness and improve the running properties. It is a mineral oil type product which forms stable emulsions with water, and may be used either neat or in emulsion form. It is very stable to storage and is easily removed in a regular scour.

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If you are dyeing any Arnel-Dacron blends, we suggest you take a good look at LAUREZOL HT for use as an accelerator. LAUREZOL HT will give good unions and is readily removed from the goods after dyeing with a good soaping off and rinse. We recommend about 20% on the weight of the fabric for satisfactory results.

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Panola plant of Abney Mills. **Charles R. Walters,** vice-president of Abney Mills at Greenwood, S. C., was named to the executive committee of Erwin Mills' board of directors. * * * **C. O'Neal Walker,** manager of the Stonewall (Miss.) Division, is now scout commissioner for the Choctaw area council of the Boy Scouts of America.

Harry W. Fiedler, Jr., is now general manager of the Holland Woven Label Co., Inc., Williamsport, Md., a subsidiary of Alkahn Silk Label Co., Paterson, N. J.

Benjamin Greenwood is now superintendent of Ashton Textiles, Millville, N. J., manufacturers of furniture fabrics, succeeding Daniel Green.

Frank Hammer, a septaugenerian who has been foreman in the wet finishing department of Appleton (Wis.) Woolen Mills since 1917, re-

Mr. Hammer

cently received a diploma in human relations from the University of Wisconsin extension division. Mr. Hammer has been with Appleton since 1902.

Fieldcrest Mills, Inc., appointed **Norman F. Young** assistant superintendent of the bleachery, and **Harold Squires** foreman of the bedspread weave room. **S. G. Strader,** who retired, was replaced by **Woodrow P. Beauchamp** as master mechanic at the Draper mills. **R. C. Greene,** formerly with Burlington Industries, Inc., joined Fieldcrest as superintendent of the synthetic fabrics mill. **B. A. Bobbitt** was promoted to the new position of assistant to the superintendent of the towel mill. * * * **J. M. Norman,** manager of the Karastan Rug Mill, is now president of the Carolina Cooperative Council.

Marcus C. McCreary, formerly superintendent, is now resident manager of Flagg-Utica Corp.'s Florence, Ala., division. **W. S. Flanagan,** vice-president, has moved his office to the Anniston (Ala.) Knitting Co. The transfer was made to strengthen the Anniston division, but does not alter the status of the managerial or supervisory staff.

Robert O. Arnold is now chairman of the board, chairman of the executive committee, and president of Fulton Bag & Cotton Mills, Atlanta, Ga. Vice-presidents heading new divisions resulting from a recent reorganization are **Norman E. Elsas,** mills division; **Clarence E. Elsas,** fabrics division; and **Jason M. Elsas,** bag division.

Personal NOTES ABOUT MEN YOU KNOW

William Ford, a native of Fairmont, N. C., has assumed his duties as general manager of the Neisler Mills Division of Mass. Mohair Plush Co. The eight recently acquired mills are located in the Carolinas, where a modernization program has been instituted.

Joseph Galetta, formerly with Jersey Dyeing Co., is now head finisher

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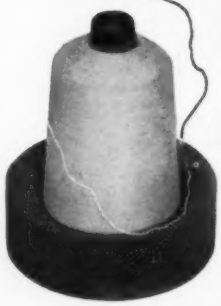

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AT LAST! Snag-free unwinding of coned yarn! Regardless of the size of cones, yarn cannot slip below the shoulders of cones and become snagged. Tubular knit of patented design keeps thread free until all thread is unwound. Cost is low! For information, write or wire Dept. TI.

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at Nu-Dye & Finish Co., Inc., Paterson, N. J. **John Scala,** formerly with **Herzel** Textile Dyers, Inc., is his assistant.

Succeeding the late G. Arthur Cook as treasurer and general manager of West Boylston Manufacturing Co. of Alabama is **Sidney W. Tingen,** who had been assistant treasurer and secretary for the past 10 years.

Vice-president and general manager of Wilkes Hosiery Mills Co., North Wilkesboro, N. C., is **James E. Gibson, Jr.,** who is also a director. **Tom Eshelman** is now secretary and director.

After more than 14 years as vice-president and general superintendent of A. D. Ellis Mills, Inc., Monson, Mass., **William H. Hodgman** has resigned.

Felix R. Husler is now vice-president in charge of production at Joan Plush Mills with plants in Woonsocket and Burrillsville, R. I., and Hickory, N. C.

Johnston Mfg. Co. has announced that **Irwin Belk** of Belk Stores is now a director of Park Yarn Mills Co., Kings Mountain, N. C.; and **Arthur R. Newcombe** of Hornblower & Weeks is a director of Anchor Mills Co., Charlotte, N. C.

C. Allen Gove is plant manager of The Kendall Co.'s new eight million dollar finishing plant at Bethune, S. C. His previous duties as controller of the cotton mills division at Charlotte, N. C., have been assumed by **Julian R. Black.**

F. Lawrence Lee is superintendent of F. C. Huyck & Sons' new plant at Aliceville, Ala. Mr. Lee came to Alabama from the company's Rensaeler, N. Y., plant where he was assistant superintendent of yarn making. He was previously a resident of Selma, Ala.

William H. Lehmberg, formerly executive vice-president, is now president of American Felt Co., Glenville, Conn. He succeeds John T. Lawless, who continues as chairman of the board.

A recent addition to the board of trustees of Brevard College was **Albert G. Myers, Jr.,** secretary-treasurer of Textiles-Inc., Gastonia, N. C.

Following the resignation of Robert A. McCraney as general manager of the velvet division of Alexander Smith, Inc., Liberty, S. C., **Allan Mirenghi,** general superintendent, was promoted to succeed him.

At the 18th annual convention of the National Cotton Council in Biloxi, Miss., **Francis J. Beatty,** cotton warehouseman of Charlotte, N. C., was elected president. **W. M. Rhea Blake,** Memphis, Tenn., was reelected executive vice-president and secretary. Newly elected members of the board of directors were **A. K. Winget,** American & Efird Mills, Inc., Mount Holly, N. C.; **F. W. Symmes,** Piedmont Plush Mills, Greenville, S. C.; **Charles C. Hertwig,** Bibb Manufacturing Co., Macon, Ga.; **J. Craig Smith,** Avondale Mills, Sylacauga, Ala.; and **A. B. Emmert,** Dan River Mills, Inc., Danville, Va. The next convention will be held in St. Louis, Mo., in Jan., 1957.

Personal NOTES ABOUT MEN YOU KNOW

Henry P. Neisler, who recently joined The Randolph Mills, Inc., Concord, N. C., is in charge of fabric developing. He formerly held a similar

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TRADE MARK REGISTERED

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Weighs only 6 1/4 lbs., yet the amazing new Oakite "Hurriclean" steam-detergent gun is a match for your toughest cleaning jobs. It's safe — steam travels in insulated inner tube, cool detergent solution in outer tube. And easy to operate! A mere twist of the rubber grip changes direction of spray.

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H. R. FISHER—Concord, N. C.—Box 83—Phone 2-8930
H. J. SMITH—Providence—Box 1187—Gaspee 1-0100

position with Neisler Mills, Inc., in Kings Mountain, N. C.

John T. Newton is now assistant general manager of Dundee Mills, Inc., Griffin, Ga. Mr. Newton previously served as superintendent of Mill No. 1, a position now held by **J. Henry Walker** who was his assistant.

James Giblin, professor of textile engineering at New Bedford (Mass.) Institute of Textiles and Technology, succeeds **Francis Tripp** as dean of the faculty. Prof. Tripp is now devoting full time to his duties as professor of chemistry and director of research.

Carleton Woolen Mills of Maine, Inc., appointed **Al Otto** general manager of its Winthrop, Maine, mill. Mr. Otto was formerly vice-president in charge of New England woolen operations for Amerotron Corp.

Mrs. T. G. Shelton was elected to fill the vacancy left by the late L. N. Mills, Sr., as president of Paola Cotton Mills, Statesville, N. C. **Mrs. T. G. Fawcett** and **Mrs. L. N. Mills, Sr.,** were elected vice-presidents; and **A. L. Mills, Jr.,** secretary-treasurer and general manager.

Leonard H. Patnick is now an engineer with Shawmut, Inc., Stoughton, Mass. He was formerly with the Worcester (Mass.) Knitting Company.

Edward Paulino, formerly second hand, is now overseer of spinning at River Mills Corp., Fall River, Mass., succeeding Anthony J. Rawlins who has retired.

Pepperell Manufacturing Co., 160 State St., Boston, Mass., elected **Lyman H. Smith** as treasurer, and **Frederick D. Strong** as secretary and clerk, following the resignation of **Paul E. Crocker,** who had held all three positions. Mr. Crocker remains with the company on a consulting basis and as a member of the policy committee.

Horace T. Greenwood, Jr., was elected president of the Philadelphia Textile Manufacturers Association for the 1956 term. Other officers elected were: vice-presidents, **Edwin G. Michie** of Alva Tape Mills and **John P. Doerr** of Philadelphia Carpet Co.; secretary, **Richard B. Stehle** of Brehm & Stehle; and treasurer, **George A. Birkenbach** of Huntingdon Yarn Mill, Inc.

Joseph Pucilowski is now manager of Millville (N. J.) Hosiery Co. He succeeds William St. Aubyn.

Vance Readling, who was formerly dyer at Smith Hosiery Co., Newton, N. C., is now dyer at Robinson Hosiery Mill in Catawba, N. C.

Paul P. Watkins is now attorney and traffic manager of the Georgia-

Mr. Watkins

Alabama Textile Traffic Association. He fills the vacancy left by **Rupert L. Murphy,** who is now a member of the Interstate Commerce Commission. Assistant traffic manager is **C. L. Hoffman.**

H. D. Whitener, vice-president of Rex Mills, Inc., Gastonia, N. C., has been elevated from general superintendent to general manager, a position formerly held by **Alfred S. Robinson,** company treasurer. **A. A. Hobbs,** Charlotte, N. C., has been elected a vice-president.

Personal NOTES ABOUT MEN YOU KNOW

Succeeding John K. Cochran as general manager of throwing production for Duplan Corporation is **Harold L. Roberts,** with headquarters in Charlotte, N. C.

E. J. Shattauck, Jr., is now manager of the Bellingham Combing Co., Bellingham Center, Mass. He succeeds R. M. Devens.

Following the elevation of **E. J. McMillan** to chairman of the board of Standard Knitting Mills, Knoxville, Tenn., **E. J. Ashe** became president, and also continues as general manager.

J. P. Stevens & Co., Inc., appointed **D. C. Turrentine, Jr.,** executive vice-president of its textile plants recently acquired from The Simmons Co. These properties include Patterson Mills Co., Rosemary Manufacturing Co., Roanoke Mills Co., and Simtex

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As Production Engineers we specialize in the utilization of

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Our list of clients reads like the Blue Book of American Manufacture, and in our files are many expressions as to our service and results accomplished, like the following:

"They increased the effectiveness of our plant very much and we are well pleased with the results."

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Personal NOTES
ABOUT MEN YOU KNOW

Mills Division. * * * **Dan M. Leister,** manager of Stevens' Appleton Plant, Anderson, S. C., was also named manager of the Whitmire (S. C.) Plant. * * * Three former general superintendents who have been appointed plant managers are: **W. S. Huff,** Greer (S. C.) Plant; **C. F. Stansell,** Monaghan Plant, Greenville, S. C.; and **D. A. Stansell,** Victor Plant. **Gaston Jennings** has been appointed group manufacturing secretary.

At Union Bleachery, Greenville, S. C., **Roy L. Brooks** was promoted to assistant foreman of the machine shop, and his former duties as millwright supervisor were assumed by **James M. Owens. Bobby L. Letlow** became supervisor of the second shift. **Charles T. Graham** was made assistant foreman in the laboratory.

The Cotton Institute of Canada, with headquarters at 630 Lagauchetiere St. West, Montreal, Quebec, elected the following officers for 1956: **H. Roy Crabtree** of Woods Manufacturing Co., Ltd., re-elected president; **L. C. Bonnycastle** of Canadian Cottons Ltd., first vice-president; and **J. E. O'Grady** of Stauffer-Dobbie Ltd., second vice-president.

Marvin R. Cross, president of Greenwood Mills, Inc., was recently elected chairman of the board of The Association of Cotton Textile Merchants of New York.

Effective the first of March, **Jules Witten** became vice-president of Groves Thread Co., Gastonia, N. C., where his time is chiefly devoted to sales. Mr. Witten recently resigned his position as vice-president of Botany Cottons, Inc.

Obituaries

William Johnson Armfield, III, 49, president of Madison Throwing Co., Greensboro, N. C.

Sylvester J. Asbell, 86, retired textile mill owner, Paterson, N. J.

Joseph Berkson, retired treasurer of New York Knitting Mills.

Leslie Biggin, 62, retired president and general manager of Canadian Wool Co., Ltd., Toronto, Canada.

Clifford W. Birch, president of Birch Brothers, Inc., Somerville, Mass.

William B. Black, 57, retired textile mill superintendent, Gastonia, N. C.

Harry Broomhead, 94, retired instructor in weaving and design at Bradford Durfee textile school, Fall River, Mass.

James A. Burke, Jr., 89, treasurer of Sagamore Manufacturing Co. and Foster Spinning Co., Fall River, Mass.

T. Cameron Burnett, 89, retired superintendent of grounds at Abney Mills, Greenwood, S. C.

Arch Cash, 85, retired secretary-treasurer of Springfield Woolen Mills, Knoxville, Tenn.

James A. Cerruti, 57, owner of Gloria Silk Corp., Paterson, N. J.

James F. Dewey, 73, of A. G. Dewey & Co., Quechee, Vt.

B. Frank Druckenmiller, 83, retired superintendent of Devsher Knitting Mills, Kutztown, Pa.

de Forest Lott, 57, chief development engineer of the Textileather Division of General Tire & Rubber Co., Toledo, Ohio.

Henry B. Miller, retired manager of Consolidated Textile Co., Inc., Lynchburg, Va.

Frederick Mitchell, 73, vice-president of the former Katterman & Mitchell Silk Co., Paterson, N. J.

Edward L. Murphy, Jr., sales engineer, Bentley Knitting Machinery Organization, Inc., Providence, R. I.

W. M. Reed, 63, founder and chairman of the board of American Air Filter Co., Inc., Louisville, Ky.

Clarence E. Rich, 49, plant manager for A. Schottland, Inc., Rocky Mount, N. C.

Curt Richter, 62, retired vice-president and director of S. Stroock & Co.

John H. S. Spencer, 60, vice-president and secretary of H. W. Butterworth & Sons Co., Bethayres, Pa.

Joseph C. J. Strahan, retired hosiery manufacturer and former director of the National Association of Hosiery Manufacturers.

Charles Thompson, 55, group leader in the dyeing and finishing division of the research and development department of The Chemstrand Corp., Decatur, Ala.

Werner Tobeler, Sr., 66, retired president of Union Woven Label Co., Glen Rock, N. J.

Dr. Robert Widmer, 69, retired textile chemist for United Piece Dye Works, Lodi, N. J., and Cliffside Dyeing Co., Paterson, N. J.

Max W. Winkler, 69, founder and president of Blue Ridge Textile Co., Bangor, Pa.

Joseph Zimmerman, 50, treasurer of the National Hosiery Dyeing & Finishing Works, Boston, Mass.

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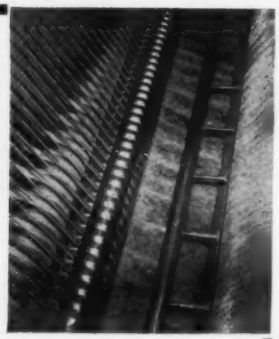

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Executive Views

(Continued from page 119)

Various farm groups have long advocated such legislation because they felt that it would advertise and promote the consumption of cotton and cotton products. We have never been able to understand this argument completely but the pressure from farm groups has been increasing steadily each year. At the same time, the retail stores have wanted some type of labeling legislation because of the confusion which they say now exists from existing laws and regulations, customer inquiries, etc.

The woolen mills have had the Wool Labeling Act for a number of years, and a friend of ours who runs a woolen mill tells us that it has been a source of continual headaches since its passage. On the other hand, the principal objections to labeling have come from garment manufacturers who felt that this would place an added burden on them just at a time when they were hard pressed to compete with the low costs of Japanese manufacturers.

Why wouldn't it be fair to pass legislation which would say that whatever sort of label a manufacturer puts on a piece of cloth, or garment, or a pillowcase is that manufacturer's own personal business, but that whatever he says on the label must be the truth? That would leave each individual manufacturer free to extol the virtues of his fiber or of his product, but it would put him under a legal obligation not to go beyond the bounds of truthfulness. By following this procedure, a mill which put a label on a shirt indicating that it contained 65% cotton and 35% Dacron, would have to be prepared to prove that this was, actually, the fiber content of the shirt.

This suggestion is passed on to the United States Congress, free of charge, in the hope that it may be of some assistance in solving a difficult problem. We take no particular pride in the suggestion, because it is the policy which has been followed by both the British and Canadian Governments for some time.

What the TEXTILE MILLS *are doing*

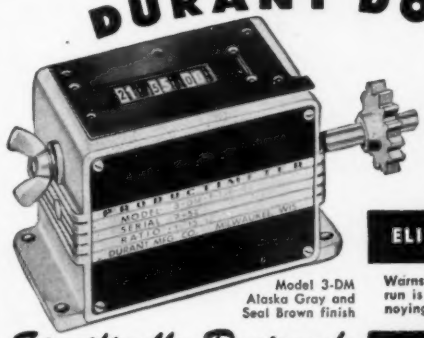
Winners in the Alabama Cotton Manufacturers Association's 1955 textile safety contest were: Weaving and spinning division, **Tallassee (Ala.) Mills,** first place, repeating its 1954 record; **Goodyear Decatur (Ala.) Mills,** second place; and **Geneva (Ala.) Cotton Mills,** third place. In the spinning mill division, **Linen Thread Co.** of Blue Mountain won first place; **Gurney Manufacturing Co.** of Prattville, second; and **Adelaide Mills** of Anniston, third. All winners will be honored at the association's annual meeting at Biloxi, Miss., April 12-13, where the Comer safety trophies will be presented.

Cabin Crafts, Inc. of Dalton, Ga., **West Point (Ga.) Manufacturing Co.,** and William Baird & Co., Ltd. of Glasgow, Scotland, have jointly established Rivington Carpets, Limited, at Horwich Junction, Lancashire, England. Installation of machinery is under way in a modern plant for the new tufted rug and carpet manufacturing company. It will be staffed by key personnel trained at Cabin Crafts' Dalton plant. The experience and facilities of all three participating companies are being extended to Rivington.

The art department at **Callaway Mills Co.'s** Dallis Street Community Center in LaGrange, Ga., is now offering facilities for jewelry making and other metal crafts. Several classes a week are scheduled. Many of the employees have already made handsome articles in sterling silver.

Chicopee (Ga.) Manufacturing Corp. has launched a project to make it possible for its employees to buy 200 mill houses in the company village. First choice is given to those already

DURANT DOFFMETER



Model 3-DM
Alaska Gray and
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ELIMINATE OVERRUNS

Warns operator or stops machine when run is completed. Yes — eliminates annoying underruns, too!

Specifically Designed
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The Durant Doffmeter is a compact, predetermined counter designed to cut off the loom or signal when the preset number of yards is reached. Eliminates cut marks and waste ends by assuring uniform yardage . . . simplifies inventory control.
Present day high costs make the installation of Durant Doffmeters on every loom a practical money saving investment. Plan now . . . write or contact us for detailed information.

UNIFORM LENGTHS

Easy, accurate way to assure uniformity in lengths of cloth or yarn.

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A Durant Doffmeter takes the responsibility — operator can do other work.

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SINCE 1879 *Count Everything*

What the TEXTILE MILLS are doing

in residence. If the offer is rejected, other employees then have the opportunity of acquiring the property.

Contributions up to $5,000, made by alumnae for the benefit of Converse College, will be matched dollar for dollar by Stanley W. Converse, president of **Clifton Manufacturing Co.,** Spartanburg, S. C. The offer was made public by Mrs. L. S. Chapman, president of the college alumnae association.

Collins & Aikman Corp. has donated the entire school facilities of Ca-Vel, N. C., to the Person County Board of Education. The $140,000 building and grounds were provided and equipped by Collins & Aikman in 1931. Since then the company has supplied books, heat, nursing service, supplies, and paid the salaries of two teachers. State and federal funds will now be available to the school, as well as the continued aid of the company.

Derry Damask Mill, Inc., Gaffney, S. C., has a $250,000 modernization program in progress. Eight new Jacquard looms are being added, and about 40 old ones replaced. Production of loom-woven bedspreads is being almost doubled. The company has also established its own sales organization, headed by W. K. Gunter, Jr., vice-president and general manager.

Dodgeville (Mass.) Finishing Co., Inc., is now offering an "anti-static" finish for nylon curtain material. Elimination of crackling and sticking makes the fabric easier to sew, and gives it added "hand."

Dolphin Jute Mills, 70 Spruce St., Paterson, N. J., were recently purchased by The Linen Thread Co. No changes in management or personnel are contemplated.

An expansion is under way to double the size of **Doric Textile Mills, Ltd.,** 300 St. Louis Street, St. Johns, Quebec. For the past two years production has been devoted exclusively to lining materials, but operations will be extended into new fields upon completion of the additional facilities.

Fieldcrest Mills, Inc., has a new silk warper and several additional silk winders in operation at its Synthetic Fabrics Mill, where manufacture of silk and combination-silk fabrics has been resumed. * * * A new swimming pool is scheduled to be ready for use at the community center in Fieldale, Va., about May 15. Now under construction, the 35 x 85 ft pool will be of concrete with a lifetime white finish; diving boards and ladders will be of chrome-plated copper; green tile will extend from the water to the top of the pool, and underwater lighting and vacuum cleaning system are included.

Production is expected to be increased 100 per cent this year at **H. E. Frisch Knitting Mills Co.,** 1991 East 66th St., Cleveland 3, Ohio. New facilities include 12-cut transfer machines, sewing, looping, and finishing machines. The washing department is being doubled. The company is offering an extended line of women's sweaters in high-bulk Orlon, zephyrs, and fur blends. Nylon stoles feature hand-fringing made on Raschel machines in the separate fringing department. Output of Belgium-type baby shawls by the Raschel and Kettenstuhl machines is being increased by more than 20 per cent.

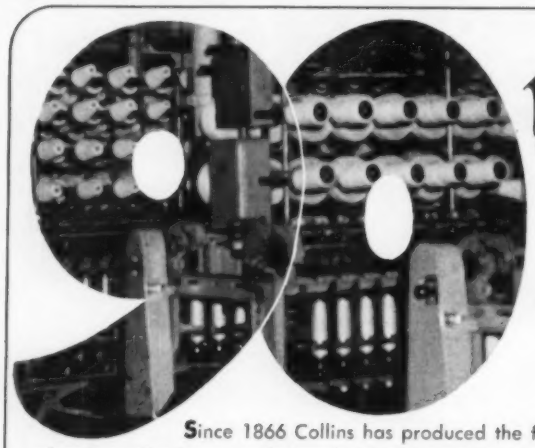
The Fulton Finishing Division of **Fulton Bag & Cotton Mills,** Atlanta, Ga., recently announced its entry into the field of commission bleaching, printing, dyeing, and backfilling.

Tryon (N. C.) Processing Co. has been converted to production of novelty yarns. Solid and space dyed yarns formerly produced at Tryon are now being supplied to its customers by **Burkyarns, Inc.,** Valdese, N. C., where an expansion program which includes an 8,000 sq ft addition to the dye house and installation of some new dyeing equipment has been initiated.

Union Manufacturing Co., Frederick, Md., is installing a battery of seamless machines and will manufacture both seamless and full-fashioned hosiery.

Ware (Mass.) Knitters, Inc., recently completed a new plant to house the Calais, Maine, operations. The modern building provides ample space for the stitching factory, a large storage area, a cafeteria, offices, and a mill store.

The new name recently adopted for the spinning division of the Winchester Company of Winsted, Conn., is **Winchester Spinning Corporation.**



Years of experience stand behind every COLLINS Twister

Since 1866 Collins has produced the finest and most complete line of twisters on the market for the production of quality yarns at high speeds. The range of Collins Twisters includes Novelty, Ply, Big Ring, Beam, Cabling, Wet, Trap, Rayon, Paper, Glass, Single or Dual-Drive, and Special Twisters.

It will pay you to rely on Collins' long technical experience and to check on the many outstanding features found on Collins Twisters.

For Cotton • Rayon • Nylon • Orlon • Wool • Worsted • Etc.

COLLINS BROTHERS MACHINE COMPANY
647 Roosevelt Ave., Pawtucket, R. I., Est. 1866
CHARLOTTE • CHICAGO • TORONTO
There is a Collins Twister for Every Ply Yarn Construction

Carter's Third Underwear Plant in Georgia

Pictured above is the new Thomaston, Ga., plant of the William Carter Co. (Plans for construction of this modern 28,000 sq ft mill were announced in TEXTILE INDUSTRIES for February, 1955, p. 17.)

An "open house" held on February 7, 1956, gave the people of Thomaston and neighboring cities the opportunity to go through the plant and observe some of their fellow-citizens operating machines utilized in the production of Carter's knit underwear, an attractive display of which was also provided for inspection by the visitors.

Completion of a 100,000 sq ft addition to the company's Needham Heights, Mass., plant has also been announced. Constructed of brick, the three-story building has increased the shipping, warehouse, and boxing space by 70 per cent.

Lyndall F. Carter (2nd from left), executive vice-president of William Carter Co., accepts the plaque in the foyer of the new Thomaston mill from **Irving Kass** (left), president of the Thomaston and Upson County Chamber of Commerce. Other Carter executives to the right of Mr. Carter are (left to right): **William L. Carter**, vice-president; **Charles Walker**, manager of Georgia operations; **William E. McDaniels**, production manager; and **James F. Pruett**, superintendent of the Thomaston plant.

James Robinson, president of **Indian Head Mills, Inc.,** announced that an estimated expenditure of $200,000 is expected for the additions and improvements under way at the Whitney, S. C., plant. Additional dyeing and finishing equipment to be installed in one of the two new units consists of a wide high-speed frame and finishing range and a wide compressive shrinking machine and calenders. In addition to finishing fabrics for the "Pequot" brand sheets and pillowcases, the plant will do commission finishing for the converting trade.

An important step toward making textbooks attractive to young readers has been made by **Joanna (S. C.) Cotton Mills Co.** in the development of a book cloth finish suitable for color lithography. A recently compiled "History of the United States," with the cover printed in six colors, is one of the books featuring the new "Lithofinish."

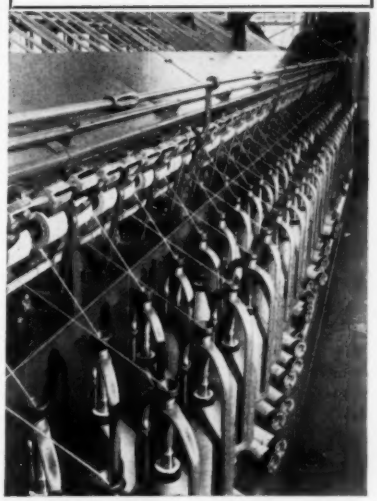
Jude Textile Co., Inc., 201 S. Main St., South Bellingham, Mass., is now in operation combing wools with 10 French combs. Future plans call for the making of synthetic top. Leon G. Hazebrouck is president and treasurer; and Francis Godin, superintendent.

Sales policy for **Mohasco Industries, Inc.,** was announced by James M. Elliott, chairman of the board, following the recent merger. The Alexander Smith division and the Mohawk division have been established. Each has its own advertising and

Now Made For

ALL

Sizes of Flyers



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TWIST CONDENSERS
ROVING PRETWISTERS*

The two design HALO TWIST CONDENSER gives maximum pretwisting and uniformity of twist on all flyers. One design fits on the front flyers and one fits on the back.

Condensers fit snugly on the flyer and are made of synthetic rubber so as not to be affected by oils on fibers.

In extensive tests actually in the mills, it has been proved that the HALO TWIST CONDENSER effects the following conditions: less ends down, less waste, heavier bobbins, more uniform yarn, up to 20% higher production, and lower costs.

Write for details today. Orders will be filled in one to ten days.

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RUBBER COMPANY
LACEY WASHINGTON

What the TEXTILE MILLS are doing

sales promotion program, and national advertising is handled through separate agencies. Mr. Elliott is directing the sales program for the Alexander Smith division at present.

L. & L. Textiles, 360 West Central St., Franklin, Mass., is a new specialty fiber mill with five cards, specializing in camel's hair and cashmere. Leo Gregoire and Leo Therin are the partners.

Lee-Walt Knit Co., formerly of Franklin, Mass., has acquired new and larger quarters at 303 Third Ave., Woonsocket, R. I., for its circular knitting operations. Leonard Bacon is owner, and Fred Stone is superintendent.

Lyman (S. C.) Mills, Inc., now owned by M. Lowenstein & Sons as part of the recently acquired Pacific Mills property, has been granted a South Carolina charter to acquire and operate cotton, silk, or other textile mills.

Among those in North Carolina **Governor Luther H. Hodges'** office on the occasion of the presentation of the "Driver of the Year" trophy to Burlington Industries' **Burton E. Crowder** were (left to right): **A. L. McArthur, Jr.,** director of Burlington's transportation division; **D. R. Jones,** personnel and safety director at Burlington; Mrs. Crowder; Governor Hodges; Mr. Crowder; and **J. B. Kennedy,** manager of Burlington's trucking division.

Burlington Industries, Inc., has extended its long-range diversification program within the textile industry by the acquisition of Hess, Goldsmith & Co., Inc. The new fiber glass weaving division continues to function as a separate company with no change in management, personnel, or policies. * * * Pacific Mills recently introduced "Covera," a new water repellent finish for fabrics used in men's suitings, topcoats, slacks and jackets. The coating covers individual fibers only, permitting the fabric to "breathe." Protection remains after repeated dry cleanings, and simple spot cleaning can be done at home. * * * Direct and unlimited colorfast impressions of patterns on men's hose are made possible by a new process developed by Burlington Hosiery Co. Currently in production is a "Sportsman Series," showing a duck, a horse's head, a golfer,

and a trout fly. All-over designs are also available. * * * Burton E. Crowder, a long-haul driver for the transportation division of Burlington Industries, Inc., received the North Carolina 1955 "Driver of the Year" golden trophy in recognition of his "very outstanding record of professional driving."

A 36,000 sq ft addition has been built at the **Seifert Woolen Mills** (Div. of G. W. Borg Corp.) in Jefferson, Wis., for the manufacture of deep-pile fabrics. Knitting capacity has been more than doubled. The company has also acquired the carding plant of C. J. Seifert Co. to supply roving required for the pile cloth.

MATERIALS HANDLING SYSTEMS

We maintain full engineering and service facilities on all types of materials handling systems and carry stocks of standard items and parts.

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Mathews Conveyors

A complete line of gravity, belt, and trolly conveyors—inclined, vertical, and portable (open franchise).

A-C ALLIS-CHALMERS

BUDA DIVISION

Complete Range Fork Lifts
Chore Boys—Mules
Diesel, Gasoline, and LP Gas Models (for South Carolina)

Let our Engineers Show You How to Save Money in Your Mill

W. D. DODENHOFF CO.
INCORPORATED
GREENVILLE, SOUTH CAROLINA

SUPPLIERS News

WHAT THEY ARE DOING

C. Stuart Brown, manager of public relations for **American Viscose Corp.**, has also been named manager of advertising. Headquarters for the department have been established in the firm's Philadelphia offices.

Ashworth Bros., Inc., has opened a card clothing factory and repair shop at 114 Sinnott Road, Scarborough, Ontario, Canada. Known as Ashworth Bros. (Canada) Limited, the new company is headed by Robert C. Ashworth, Jr., president; William Flynn, Jr., vice-president; and George R. Ashworth, treasurer.

Australian Research Services, Ltd., recently announced the opening of New York offices in the Graybar Building, 420 Lexington Ave., to serve textile manufacturers in the United States as well as Australia. Andrew Gilchrist heads the new offices.

Lee P. Shook recently joined the sales force of **Louis P. Batson Co.**, Greenville, S. C. He covers a territory including portions of the Carolinas, Georgia, and Tennessee.

A new sales service department to work closely with weaving and knitting mills on yarn requirements has been established by **Beaunit Mills.** Headed by C. K. Watson, the new department represents all of Beaunit's yarn divisions.

Becco Chemical Division, Food Machinery & Chemical Corp., is now employing 2000-gallon aluminum tank trucks especially designed for bulk delivery of hydrogen peroxide to customers lacking railroad siding facilities. Bulk handling and storage results in less waste from spilling, less labor required for handling, and less storage space required than for small containers.

H. E. Klein and G. A. Trigaux have been appointed product managers in the fine chemicals department of **Carbide & Carbon Chemicals Co.**, a Division of Union Carbide & Carbon Corp. Mr. Klein is responsible for the market development of resin chemicals. * * * Victor J. Kremers has joined the textile fibers department as a technical representative on Dynel, with headquarters in New York.

H. W. Butterworth & Sons Co. has announced the retirement of J. Hillman Zahn, manager of its southern office in Charlotte, N. C., effective April 1. Mr. Zahn, who continues in a consulting capacity, has been with the organization 43 years.

Mr. Zahn

Succeeding Anthony Neher who retired, Frank E. Nutt is now sales promotion manager of **Century Electric Co.**, St. Louis, Mo. Mr. Nutt has transferred from Chicago to the home office.

The Chemstrand Corporation announces that William P. Tukey has been transferred to the Acrilan sales division to contact mills in metropolitan New York. Mr. Tukey formerly called on government agencies for both Acrilan acrylic fiber and Chemstrand nylon yarn.

Clark Equipment Co. has established a new materials handling development center to analyze and find solutions for the handling problems of the textile industry and other individual requirements. Glen R. Johnson is director.

Cochrane Water Conditioning Limited, a subsidiary of Cochrane Corp., has assumed engineering, manufacturing and sales activities formerly handled by Canadian General Electric Co. Ltd., as the result of a mutually agreeable arrangement. General offices at 940 Lansdowne Ave., Toronto 4, are headed by Murray Dobier, vice-president and general manager.

Lloyd B. Cogswell Manufacturing Co. has established the Atlas Indus-

We'll Make You a Bet
We'll bet our money that the ROTARY UNION will outlast any other rotating steam or cooling joint. Test an equal number of ROTARY UNIONS and any other make on the same type equipment at the same time. If the ROTARY UNIONS leak first, return them and we will refund your money.
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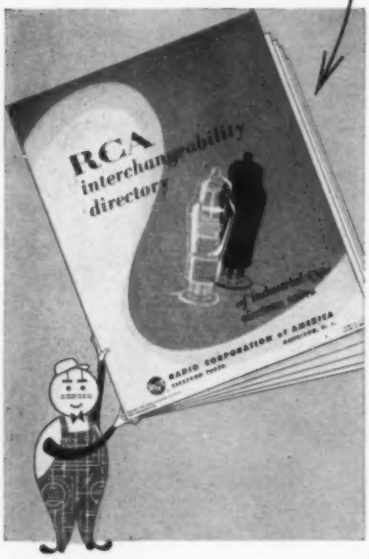
WHICH **RCA** TUBE FOR YOUR INDUSTRIAL EQUIPMENT?

...new "RCA Interchangeability Directory" tells you.



RCA INTERCHANGEABILITY DIRECTORY OF INDUSTRIAL-TYPE ELECTRON TUBES contains 16 pages of time-saving information for those who specify or purchase replacement tubes for industrial electronic equipment. Listing industrial tubes of 26 manufacturers and the equivalent RCA-type designations—approximately 2000 types in all—this DIRECTORY covers Vacuum Power Tubes, Vacuum and Gas Rectifiers, Thyratrons, Ignitrons, Magnetrons, Cold-Cathode (Glow-Discharge) Tubes, Phototubes, Oscillograph Tubes, Camera Tubes, and Receiving-Type Tubes for Industry and Communications.

Write on your company letterhead to RCA, Commercial Engineering, Section **D79T**, Harrison, N. J., for a copy of the new RCA INTERCHANGEABILITY DIRECTORY—Form No. ID-1020A.

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Radio Corporation of America

RCA ELECTRON TUBES...LONG-LASTING, DEPENDABLE...AVAILABLE THROUGH YOUR RCA TUBE DISTRIBUTOR.

SUPPLIERS News
WHAT THEY ARE DOING

trial Roll Division to supply industrial rolls for the textile and other industries. James R. Sisson is general manager and sales engineer.

Ciba Company, Inc., has opened a new Atlanta, Ga., depot at 534 Permalume Place, N. W. Substantial inventories of the company's products are maintained at the new warehouse for shipment to mills that can be most efficiently served from that point.

Ciba's New Atlanta Plant

Jack J. Begley, formerly a consultant with Booz Allen & Hamilton, has joined **The Colson Corporation** as assistant to the president.

Martin G. Levens is now Philadelphia district sales manager for **Columbia-Southern Chemical Corp.,** replacing Paul A. Fodor, Jr., who is now assistant director of sales for the corporation. Mr. Levens was formerly assistant to Mr. Fodor.

M. Gilbert Hopkins has been appointed manager of **Rodney Hunt Machine Co.'s** textile machinery division. He replaces A. Robert Connor who was named to the newly created post of technical director of the division.

Mr. Hopkins

Independent Chemical Corp. of Brooklyn, N. Y., has been appointed by **Pako Corporation** as distributor for the "Hydromixer," a compact unit for mixing solutions in the dye house or finishing room.

A recent addition to the sales staff of **Jacquard Knitting Machine Co., Inc.,** is Joseph Olachea, who was formerly with Scott & Williams, Inc. Mr. Olachea is at the Philadelphia office.

Reliance Electric & Engineering Co. recently appointed Richard A. Geuder general sales manager, and Earl C. Barnes assistant chief engineer.

E. F. Houghton & Co. has named A. J. Andre as assistant sales manager of the southern division. Mr. Andre is located at the Charlotte, N. C., office, where W. H. Brinkley is sales manager.

Mr. Andre

Herman E. Crawford of **H. E. Crawford Co., Inc.,** recently patented the "elastic selvage top for knitted articles and method." The patent teaches starting the top of a sock with knitting only inelastic body yarn independently of the elastic yarn, after which, the elastic yarn is laid in, alternate loops of the body yarn being retained in the hooks of the needles and later knitted in subsequent courses to draw the first course down and roll the selvage top

over upon itself. Thus, unraveling is prevented, while the stretch is not limited.

F. Stanley Hallett recently joined **Curtis & Marble Machine Co.** as assistant to the vice-president of sales in charge of sales promotion and advertising. For the past eight years Mr. Hallett had been advertising and public relations manager for Abbott Machine Co., Inc.

Continental Gin Company recently announced several personnel changes, including the election of Eugene H. Brooks to executive vice-president, and Glenn P. McCarty to vice-president, western district. Now manager of sales development is Ralph Y. MacIntyre, who has been replaced by George C. Morgan as manager of the industrial division. T. L. King is now manager of sales engineering, and G. C. Cagle, Jr., is sales manager of the western district.

Cocker Machine & Foundry Co. of Gastonia, N. C., has announced the addition of three textile machinery lines. The company will manufacture, sell, and service Sucker hot air dryers in connection with Cocker slasher heads and size boxes, thereby giving mills a choice of drying equipment. Cocker will also sell and service A. Monforts line of cloth finishing equipment on an agency basis, and will manufacture but not sell Thies dyeing equipment. Thies sales will be handled by Texplant Corp. of Stamford, Conn.

The Duplan Corporation has formed a technical service department at its Charlotte, N. C., office, which combines and enlarges the functions of several former development groups. Michael Strub is manager of the department, and Francis Potter is assistant manager. The new department provides technical assistance for sales, service, and manufacturing operations.

A new unit is in operation at **Du Pont's** Niagara Falls Plant to double production of "Elvanol" polyvinyl alcohol for textile sizes and finishes and other industrial uses. Two related expansion projects now under way and scheduled for completion later this year will provide an increased vinyl acetate capacity and a substantial increase in production of "Elvacet," which are also used in the textile industry.

Johnson Service Co. has announced the appointment of John H. Colby to the newly created post of general sales manager. Mr. Johnson, who has been with the organization since 1935, had been manager of the Boston branch for 10 years prior to assuming his new duties in Milwaukee on March 1.

N. A. Ruston, who retired after 26 years with **Emery Industries, Inc.,** has been succeeded as director of development and service by his former assistant, W. T. Meinert. Recent additions to the sales staff of the chemical division were R. G. Kelso and Richard H. Proctor. Mr. Kelso came to Emery from Carbide & Carbon's research laboratories, and Mr. Proctor came from Fischer Scientific Company.

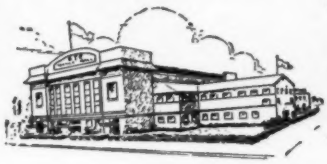
Mr. Kelso **Mr. Proctor**

E. W. Birdsall, who was recently advanced to New England manager of Geigy Dyestuffs, has been succeeded as head of the Mitin Department of **Geigy Dyestuffs, Division of Geigy Chemical Corp.,** by W. F. Charlton, formerly promotional director. Joseph S. Lange, sales manager, and D. P. Knowland, chief chemist, retired the first of the year after a combined service of 80 years with Geigy Dyestuffs.

Formation of the **Ultrasonic Manufacturers' Association** was recently announced. Purpose of the organization is to promote dissemination of sound and accurate information about ultrasonic equipment and its applications. Officers elected were: President, W. C. Potthoff, vice-president of Aeroprojects, Inc.; vice-president, Stanley R. Rich, technical director and vice-president of The General Ultrasonics Co.; secretary, Norman Branson, president of Branson Instruments, Inc.; and treasurer, Jack Welch, general manager of the machine tool division of Sheffield Corp.

R. B. Warren has been named to succeed H. D. Foster, sales manager of **Goodyear Tire & Rubber Co.'s** industrial products division, effective June 1, upon the retirement of Mr.

NINETEENTH SOUTHERN TEXTILE EXPOSITION



OCTOBER 1-5, 1956

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See on exhibit the latest developments in cost cutting, quality building

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Make your plans now to attend! Room Reservations should be made in advance to

TEXTILE HALL CORPORATION
Greenville, S. C.

*"An institution of the textile industry since 1915"

SUPPLIERS News
WHAT THEY ARE DOING

Foster after 43 years with Goodyear. O. A. Schilling is now manager of industrial products departments, replacing Mr. Warren who is attending an advanced management course at Harvard University. J. W. Smith succeeds Mr. Schilling as eastern sales manager. Harper V. Bressler has retired as assistant sales manager of the division.

Draper Corporation recently expanded its knitting machinery operations by the acquisition of **Wildman Mfg. Co.** Heretofore, Draper's activity in this field was limited to the sweater machines produced by its subsidiary, Jacquard Machine Co. Wildman manufactures knitting machines for outerwear, underwear, and hosiery, in addition to a relatively new machine for making fur-like fabrics from synthetic fibers.

Republic Carloading & Distributing Co., Inc., recently expanded its operations to include direct-car service on less-than-carload shipments from the South and Southeast to the Pacific Coast; and from the Pacific Coast to the South, Southeast, Midwest, and East Coast.

The Hilton-Davis Chemical Co. recently appointed Dorman Compton as technical sales representative to the

Mr. Compton

textile industry in the South, with headquarters at Greensboro, N. C. Mr. Compton's territory includes Virginia, West Virginia, and North Carolina.

Hobbs Manufacturing Co. is now offering complete installation service in connection with the winding of webs or sheets of all types, including extruded plastics. Plants that do winding and have heretofore had to purchase various winder elements from different sources or build certain elements themselves, can now avail themselves of "engineered winding" through custom design for specific requirements. The unit planned is complete when shipped and is fully ready to operate once it is installed.

The southern offices and warehouse operations of **National Ring Traveler Co.** and **Sterling Division** are being moved from Charlotte, N. C., to new quarters scheduled for completion about April 1 at Gaffney, S. C. Site for the new 60 x 115 ft building is on U. S. Hwy. 29 near the State Hwy. 18 intersection. L. Everett Taylor is manager of the southern division.

George M. Porges has been named special sales representative for **Lassiter Corporation.** Mr. Porges

Mr. Porges

formerly headed his own firm which served as sales representatives for Waddill Printing & Lithographing Co. prior to the merger of Waddill and Lassiter.

George L. Ogdin, Jr., is the recently appointed general sales manager of the **Fulton Sylphon Division, Robertshaw-Fulton Controls Co.,** Knoxville, Tenn. New sales manager for the West Coast office is David D. Gordon, who replaces W. J. Hajek, now in the Chicago office. Robert Edsall heads the new Chicago sales office, located in the Merchandise Mart, Room 1113. A new sales office for New York is at 44 Grand Ave., Englewood, N. J., with Austin Platt as eastern region sales supervisor. Also on the staff are Edward Greiner and Norman Dayton.

The Atlanta (Ga.) Agency of **Singer Sewing Machine Co.'s** Manufacturing Trade Department has appointed Arthur R. McFarland, Jr., to cover the sales territory of northern Alabama. His headquarters are in Birmingham.

Square D Company recently announced plans for an expansion program involving the expenditure of

HOW ANDERSON SHIELDS INCREASE SPINNING ROOM EFFICIENCY

Spinning rooms using Anderson Shields save time and money, and prevent disruption when unnecessary breaking, chipping, and splitting of bobbins and spools is avoided. In a year's time these items alone can amount to a surprising sum . . . Insist on Anderson and get the best protection metal shields afford . . . Watch your spinning room efficiency increase!

TEXTILE SHIELD CO., INC.

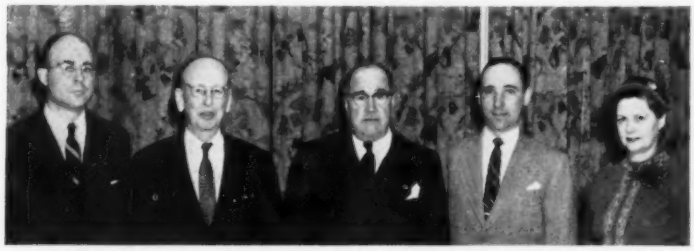
Metal Protection for Wood Turnings

J. N. ANDERSON, Treas.

LAWRENCE, MASS., U.S.A.

$9,000,000 for new plants and other improvements to be completed within the next two years. One of the major projects included is the construction of a $3,000,000 manufacturing plant in Milwaukee. The company expects to increase output of present lines as well as to launch several new product developments.

The **American Textile Machinery Association** has re-elected W. Frank Lowell of Saco-Lowell Shops as president for 1956. Also in their second terms of office are: James H. Hunter, of James Hunter Machine Co., vice-president; and Gorham Brigham of Saco-Lowell Shops, assistant to the president. Samuel F. Rockwell of Davis & Furber Machine Co. is now serving his 24th consecutive term as treasurer of ATMA. Newly elected directors are P. Kay Schwartz, president of Proctor & Schwartz, Inc.; and Myron S. Curtis, engineering vice-president of The Warner & Swasey Co. Mrs. Mildred Andrews continues as executive secretary of the association.



ATMA officers (l to r): Messrs. Brigham, Rockwell, Lowell, Hunter, and Mrs. Andrews.

Charles W. Weymouth, formerly overseer of spinning at Merrimack Manufacturing Co., has joined **Roberts Company** as service engineer.

Mr. Weymouth

Sam Emison has been appointed to succeed R. U. Haslanger as director of industrial chemical sales of **Stauffer Chemical Co.** For 15 years Mr. Emison was sales manager of Consolidated Chemical Industries, Inc., which recently merged into Stauffer. His headquarters are in New York City.

Harry Miller Corporation is the new name of the twenty-year-old Haas Miller Corporation. Among the numerous chemical products manufactured by the firm is "Fibregard," which is used to treat synthetic and natural fibers and which has many applications in the textile processing industry.

B. E. Smith, former manager of the Roseboro Spinning Mills, has joined the staff of **All-Fiber Textile Machinery Co., Inc.,** Belmont, N. C.

Joseph C. King has been appointed technical director of the southern division of **Metro-Atlantic, Inc.** Mr. King previously served as research director for the Fairforest Co. and assistant director of research with the Graniteville Co.

Mr. King

The Paramount Chemical Co. is now located in its new building at 2078 Philips St., Columbus, Ga. The new structure contains enlarged office and display rooms and additional manufacturing and warehousing space. According to William Pope, manager, the expanded facilities permit shipments to be made the same day orders arrive.

J. Philip Smith, formerly assistant to the senior vice-president of **Chas. Pfizer & Co., Inc.,** has been promoted to the position of general manager of the chemical sales division.

The following sales representatives have been appointed by **Warner Electric Brake & Clutch Co.:** Martin Laughlin, for the territory covering Vermont, Connecticut, western

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WANTED—SALES REPRESENTATIVES. SOUTHERN MANUFACTURER, MODERN PLANT, QUALITY PRODUCTS, COMPETITIVE — MATERIALS HANDLING EQUIPMENT AND RELATED PRODUCTS. BUILT TO BUYER'S SPECIFICATIONS AND REQUIREMENTS. GIVE FULL PERSONAL INFORMATION INCLUDING EXPERIENCE, TERRITORY COVERED, REFERENCE, ETC. IN FIRST LETTER. WRITE Box 754, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta, Georgia.

AGENCY WANTED—Medium size, progressive chemical company is seeking an agency or distributorship for Southern Territory, preferably one in the Charlotte area, to handle line of textile chemical specialties, including detergents, all types of finishing materials for synthetic fibers, warp sizing materials, sulfonated oils, liquid resins, fire retardants, etc. Seeking agency with positive contacts in the Southern Territory. Reply to Box 753, TEXTILE INDUSTRIES, 806 Peachtree Street, N.E., Atlanta 5, Georgia.

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WE ARE A PROGRESSIVE AND EXPANDING COMPANY LOCATED IN THE UNITED STATES WITH A CANADIAN SUBSIDIARY. OUR PLANS INCLUDE THE ESTABLISHMENT OF LABORATORY FACILITIES IN MONTREAL TO SERVE THE TEXTILE INDUSTRY, PRIMARILY IN THE PROVINCE OF QUEBEC, ON A WIDE RANGE OF TEXTILE PRODUCTS. WE REQUIRE A GRADUATE CHEMIST WITH PLANT EXPERIENCE IN PRINTING AND FINISHING, WHO IS CAPABLE OF HANDLING TECHNICAL PROBLEMS, BOTH IN THE LABORATORY AND FIELD ON SPECIALTIES FOR SIZING, PRINTING AND FINISHING OF COTTON AND SYNTHETIC FIBRES. SOME DEVELOPMENT WORK MAY BE REQUIRED. GIVE DETAILS OF EDUCATION, EXPERIENCE AND SALARY REQUIREMENTS. Reply to Box 748, TEXTILE INDUSTRIES, 806 Peachtree Street, N. E., Atlanta 8, Ga.

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30 JACQUARD LOOMS
30 PLAIN LOOMS
WILL TAKE BACK 90% OF MANAGEMENT. Reply to Pawtucket 3-2676, H. L. Slifkin, 254 Central Ave., Pawtucket, R. I.

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Specializing in repairs, alterations, and refinishing of all textile bobbins. For Quick Sale: Thirty thousand Used 8" enamel quills, $15.00 per thousand. Sample sent on request.

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We buy and sell good used Quills, Slubber and Twister bobbins. Tell us what you need or what surplus bobbins you have for sale.

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PARTIAL LIST OF ITEMS IN WAREHOUSE STOCK FOR IMMEDIATE SHIPMENT

2—10 x 5 Saco Lowell Slubbers, 104 spindles, 7½" gauge, Whitin Interdraft.
6—9 x 4½ Saco Lowell Slubbers, Whitin Interdraft, 112 spindles, 7½" gauge.
2—8 x 4 Saco Lowell Speeders, F5I long draft, 144 spindles, 6" gauge.
12—8 x 4 Whitin Woonsocket Superdraft Frames, 7" gauge, 144 spindles, 1948 model.
4—Whitin Model "N" Enclosed Hopper Feeders, motor driven.
2—34½" F-5 Kitson Feeder Hopper.
2—38½" F-2 Kitson Feeder Hoppers.
3—38½" F-5 Kitson Feeder Hoppers.
5—43½" F-5 Kitson Feeder Hoppers
1—45" Finisher Picker, P & D Evener, for 4 laps.
2—40" Kitson Single Process Pickers, 3-beaters, with blending reserve.
3—40" Kitson Single Process Pickers, 2-beaters with blending reserve.
8—No. 7 Eveners for 40" Pickers.
8—16" Kirschner Beaters.
1—16" Aldrich Beater.
11—16" 2-blade Beaters.
1—Homogonizer.
1—2-section W-3 Waste Machine.
1—4-section W-3 Waste Machine.
1—45° Inclined Superior Cleaner.
1—Whitin Model A Spinning Frame, 216 spindles, 4" gauge, 2" ring, band drive, conventional draft.
2—Whitin Model B Spinning Frames, 216 spindles, 3" gauge, 2" ring, tape drive, Roth long draft.
2—Saco Lowell Spinning Frames, 182 spindles, 4" gauge, Roth long draft, 3" ring.
42—40" Draper Model K Looms, 25 harness dobby, double index, motor driven.
40—28" Warper Beams, 12" barrel, 54¼" between heads.
2—No. 7 Sturtevant Fans, down-blast.
4—Saco Lowell No. 7 Terminal Heads, 2-bag unit.
4—Saco Lowell No. 34 Air Filters.
7—Saco Lowell 5-delivery Drawing Frames.
3—Saco Lowell 6-delivery Drawing Frames.
1—Parks & Woolson 186" Brushing & Shearing Unit, with J-Box
2—106" Inspection Tables.
3—Curtis & Marble Tandem Cloth Inspection Tables, 1—108", 1—116", 1—98".
2—No. 6 Kitson Condensors.
2—No. 9 Saco Lowell Condensors.
2—Terrell Model L Quill Strippers.
1—Terrel Model L Pirn Stripper.
3—Brown Moist-O-Graph.
2—5' Saco Lowell Slasher Cylinders—Copper.
2—7' Saco Lowell Slasher Cylinders—Copper.
5—Copper Lined Size Boxes.
2—P.I.V. Link Belt Drives.
1—No. 2 Reeves Drive with Back Control.
1—No. 3 Reeves Drive with Back Control.
500—10 x 36 Fiber Roving Cans.
4,000—12 x 36 Fiber Roving Cans.
40,000—Abbott Winder Cones.
1,200—Abbott Winder Tubes.
250,000—8-3/4" 3-ring Quiller Quills.
35,000—9 x 4½ Saco Lowell Bobbins.
15,000—9 x 4½ Whitin-Woonsocket Bobbins.
3,700—1-3/4" No. 2 Flange Rings in cast iron holders, 2-3/16" base.
12,000—1-3/8" No. 1 Flange Rings in plate holders.
6,000—2-1/4" No. 2 Flange Rings in cast iron holders.
8,700—Cast Iron Holders for 2" No. 2 Flange Rings.

SOUTHERN MILL SUPPLY CO.

TEXTILE MACHINERY

ATHENS, GA. P. O. BOX 83 TELEPHONE LIBERTY 6-6553

SUPPLIERS News
WHAT THEY ARE DOING

Massachusetts, and eastern New York; John F. Gibney to cover Maine, Rhode Island, New Hampshire, and northeastern Massachusetts; and James B. Scudder to work out of the New York office at 36 Main St., Madison, N. J.

Experimental models of the "Reading CK-A" circular knitting machine are now being operated at **Textile Machine Works,** Reading, Pa. This is the machine developed by B. F. Coile of Keller Machine Co., Athens, Ga. (see TI for October, 1953, p. 129). The Keller firm became a wholly owned subsidiary of Textile in February, 1955. Plans call for the production of a trial lot of 168- and 84-needle machines which will be placed in several domestic mills for field testing. Following the testing period, Textile will begin additional production with initial distribution limited in order to concentrate instruction and service facilities. Current experimentation has shown that a 168-needle machine with a 3¾ inch cylinder produces over three dozen pairs of four-diamond argyles in an eight-hour shift using 100s two-ply Helanca yarn and a rubber rib top. These machines are being produced and distributed through the Circular Knitting Machine Section of Textile's Braiding Machine Division.

The completion of a new 5400 sq ft building for **Jones, Gardner & Beal, Inc.,** at 976 Pine St., Spartanburg, S. C., marks the company's third local expansion in five years. The fiber and yarn testing laboratory has both conventional equipment and up-to-date facilities for making special tests. Visitors can watch the operations through a thermo-pane glass wall. Offices are finished in African mahogany paneling with cork type tile floors, and interior partitions are plate glass. Graves Jones, vice-president, heads the Spartanburg office.

Donald R. Gannon has joined the sales staff of **Procter & Gamble's** textile finishes department. He handles the sale of textile soaps, synthetic

Mr. Gannon

detergents, and specialties to mills in North Carolina and Virginia. Mr. Gannon was formerly quality control supervisor for the Duplan Corp.

Recently appointed representative for **Trumeter Company** in the New England states is Ingalls Engineering Co., Inc., 189 Virginia Ave., Providence 5, R. I.

Winthrop S. Warren, vice-president in charge of domestic sales for **Universal Winding Co.,** retired recently because of ill health. He is succeeded by Robert S. Pennock. J. Alan Nasmith has been elected vice-president in charge of the export division.

Spartanburg, S. C., fiber testing laboratory of Jones, Gardner & Beal.

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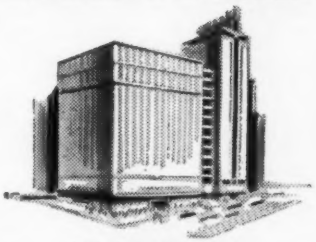
DINKLER HOTELS



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New Orleans

Teletype Service to all Dinkler Hotels

DINKLER HOTELS
CARLING DINKLER, *President*
CARLING DINKLER, JR., *Vice President*

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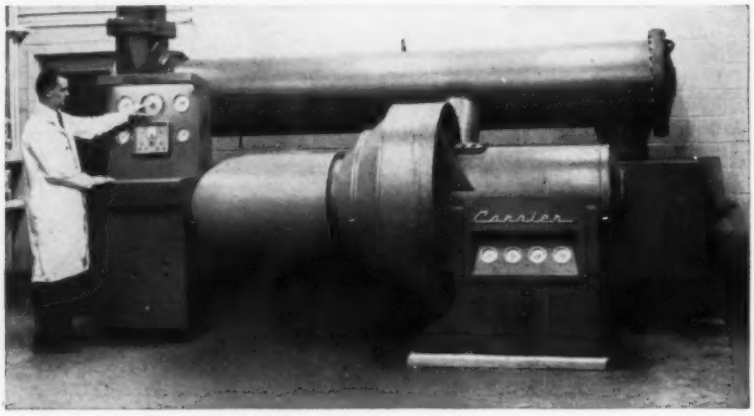

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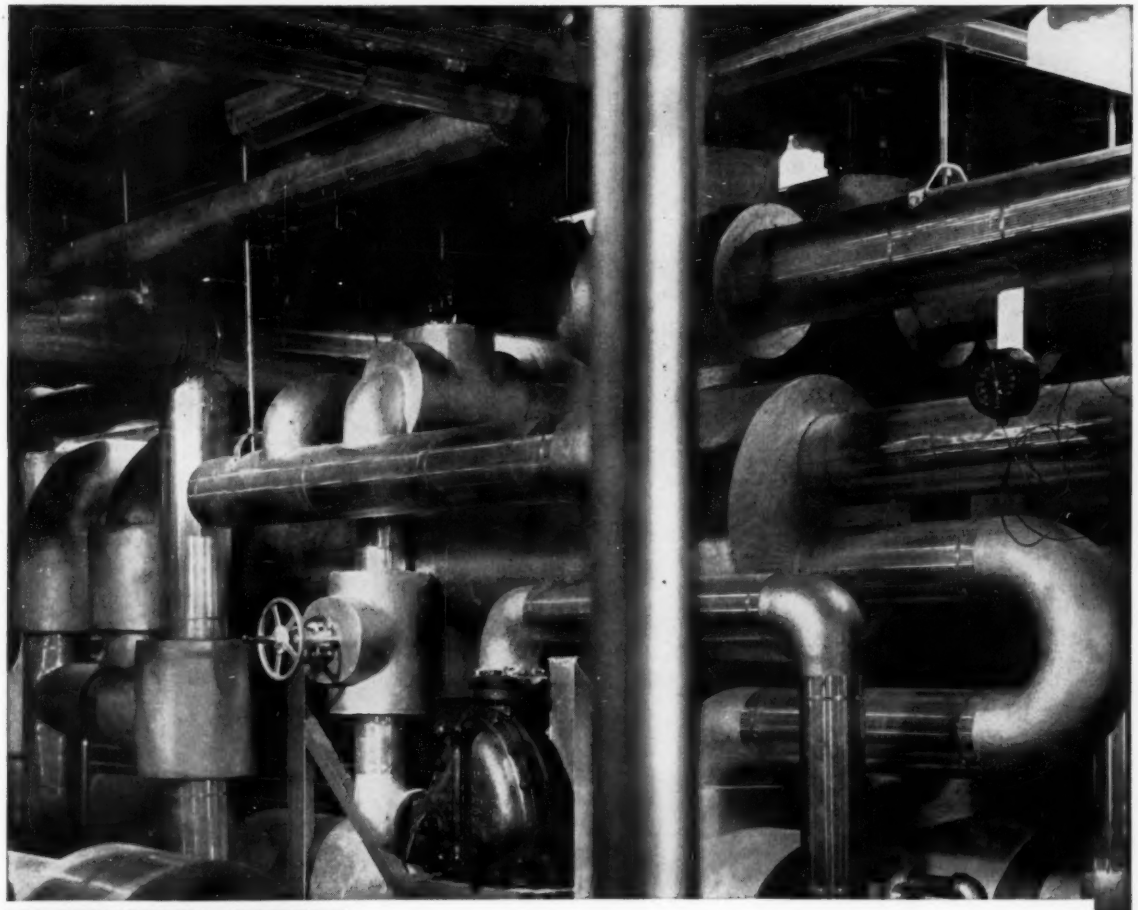

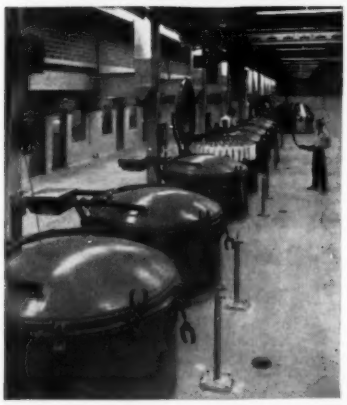

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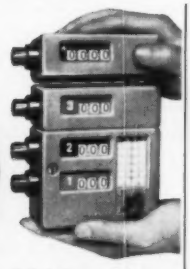

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